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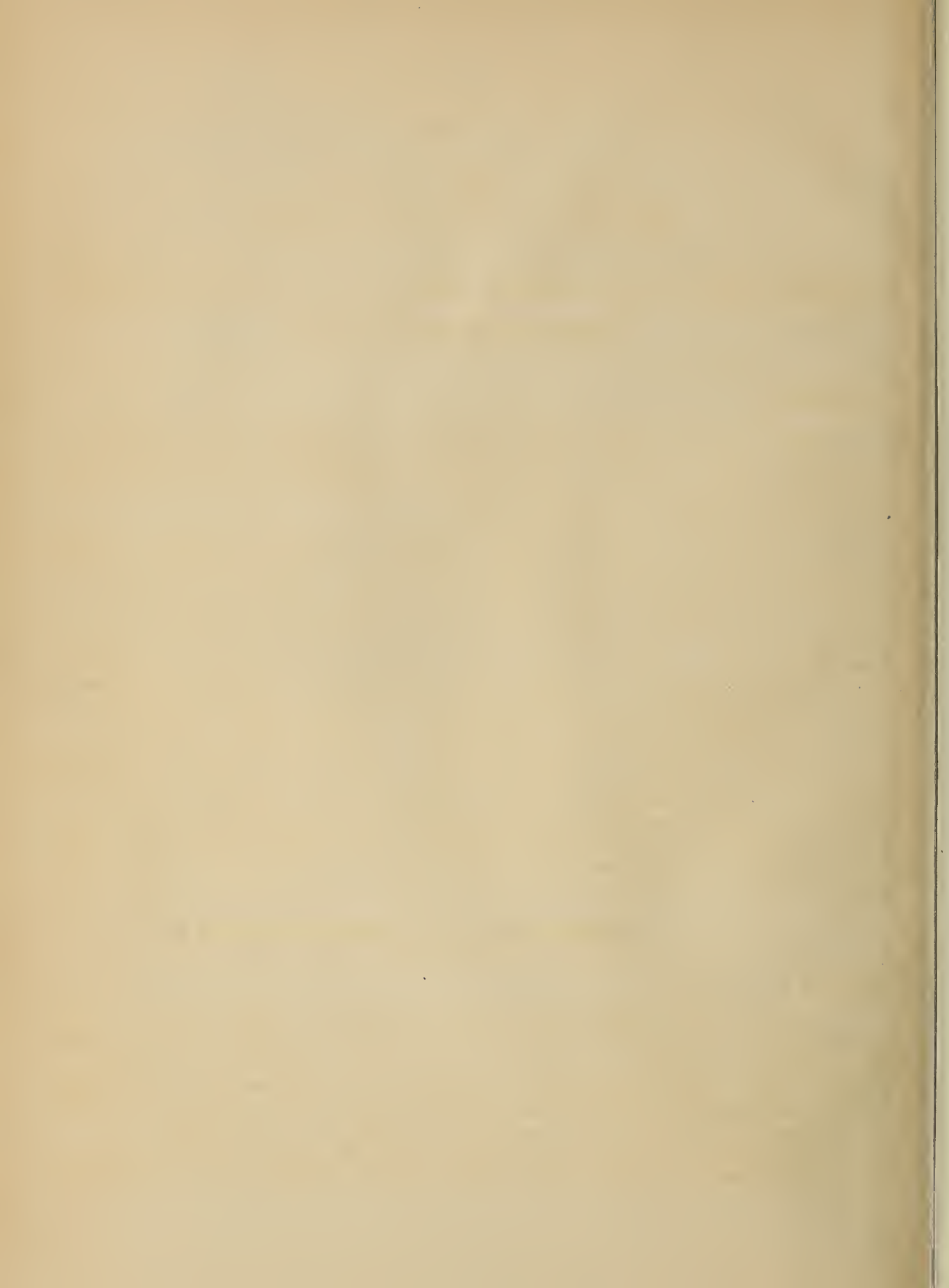
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W E E K L Y B U L L E T I N

Of the Offices of

WESTERN IRRIGATION AGRICULTURE And DEMONSTRATIONS ON RECLAMATION PROJECTS.

Vol. XXI.

July 1, 1922.

No. 1

Western Irrigation Agriculture.

Scottsbluff.

During the week ending June 24, some high temperatures for this time of the year were recorded. A maximum of 98 was reached on the 22nd, and a minimum of 51 was recorded on the 23rd. Temperatures as high as 106 were reported from some of the valley towns.

The haying operations have been uninterrupted. All of the hay is in the shock and all of field H has been stacked. The hay is going into stack in splendid condition and the yield is very good. Water was turned on field E the first of the week. The Reclamation Service has the rotation system of water delivery into effect and this has reduced the head to a continuous run of 2 second-feet. This slows up the speed of irrigation very materially. All over the project, farmers are beginning the irrigation of grain earlier than usual. The grain is in a very promising condition and generally the first cutting of alfalfa was above the average.

The grasshopper pest grows in severity. Many farmers claim that they are worse this year than ever before. They are not large enough yet to do serious damage, but around the edges of grain fields they are beginning to work. In some localities above irrigation it is reported that the hoppers are destroying the range and will force the cattlemen to move their stock. Mr. Wehr, Department of Entomology of the State University, is at the station and is carrying on some preference tests in the control of this pest.

Demonstrations on Reclamation Projects.

Newlands.

Very high temperatures prevailed during the week ending June 24. On this account, all crops are being forced forward in a very satisfactory way. The replanted cantaloupes show every indication of maturing for harvest before frost. The early planted cantaloupes are well in bloom. The prevailing high temperatures are bringing our stage of crop growth practically up to normal for this time of the year, in spite of a late spring.

Herd testing work has been the principal activity during the week. Thirteen of the large herds were tested, samples being taken by this office.

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Newlands (continued).

The black-head disease outbreak among the turkeys of the project seems to be under control. Losses from causes other than black-head have been reported and specimens sent to the University for diagnosis. These losses are not large but the turkey growers are encouraged to have all losses looked into carefully to be sure they do not have the black-head disease among their turkeys. Turkey growers are very generally using preventative measures for black-head with their turkeys.

The alfalfa hay harvest is well under way, most of the hay being in the shock. There is a scarcity of labor on the project for harvesting the first crop of hay. This has always been the case with the first hay harvest of the season, especially the first half of the harvest. After this time there is usually plenty of help. Some special effort is being made to attract labor to the project for harvest purposes. On Friday of this week a trip was made to Hazen, Sparks, and Reno, Nevada, in the interest of harvest labor for the project, returning to the project Saturday evening.

During the week two articles were contributed to the local papers, one on the control of black-head in turkeys and one reporting the results of the May herd tests conducted by this office.

North Platte.

Pig feeding tests were started at the station during the week ending June 24 for the purpose of determining the value of skim milk when fed with corn to pigs on alfalfa pasture and in dry lot. Four lots of 10 pigs each were selected. The average weight of the pigs was 35 pounds.

Lots 1 and 2 will be on alfalfa pasture and Lots 3 and 4 will be kept in dry lots. In addition to the alfalfa pasture, Lots 1 will get a 2% corn ration and skim milk in the proportion of 4 pounds of skim milk to 1 pound of corn. Lot 2 will receive 2% corn only.

The pigs in dry lots will get all the corn they will eat, lot 4 being fed corn alone and Lot 3 getting skim milk in the proportion of 4 to 1.

Arrangements have been made with Dr Hays, in charge of tuberculin eradication in Nebraska, to have the dairy herds at the station put under supervision and the first test will be made next week. The heifers and dry cows were brought in from the dry land pasture and everything is ready to begin the test Monday.

Shs ohone.

During the week ending June 24, 21 farm visits were made and 43 calls for assistance received.

Monday and Tuesday were spent assisting the farmer manager of the wool pool receive and check up on 14,837 pounds of wool. Forty-six individuals contributed to the pool and the total net receipts to growers was \$4,370.15.

Shs ohone (continued).

Because of the absence of the county agent of Park county, the remainder of the week was largely taken up with work relating to grasshopper control. Many fields were inspected at the request of owners. The complaints are coming chiefly from the part of the project extending from a line 2 miles east of Powell to the eastern extremity, and the insects are becoming so numerous that it may be found advisable to use poison over this entire section.

A representative of the Federal Farm Loan Bureau visited Powell during the week, making a survey of conditions, and a mass meeting looking to the formation of a local association has been called for next Tuesday.

Unc ompahgre.

A trip was made to Hotchkiss on Monday of the week ending June 24 with T. C. Anderson of Olathe to see a small herd of registered Poland-China hogs offered for sale near Hotchkiss. These are some of the best Poland-Chinas on the Western Slope and their purchase by Mr. Anderson has made a valuable addition to the swine industry on the project. Mr. Chaffee, who owns the hogs, also has a herd of registered Jersey cattle which he is offering for sale and some effort has been made to interest local men in them.

The regular monthly milk tests have been run this week for six men.

Dairy barn plans were furnished one man and hog house plans have been discussed with another. Two calls were made in connection with the registration of cattle and hogs.

A meeting of the Menoken pig club was attended in the home of one of the members. At this meeting it was decided to put a booth on Main street of Montrose Saturday afternoon to advertise the club and raise funds needed for club work. Only a small amount of money was raised, but the club attracted much favorable attention by their booth. Several of the clubs are planning demonstrations for the 4th of July celebration to be held in Montrose.

Several of the pig club members have weighed their pigs since receiving them. The best gain reported so far is 55 pounds in 31 days on a Poland-China gilt that weighed 58 pounds when received.

Milk River.

Mr. A. C. Cooley arrived in Malta Monday of the week ending June 24, and the forepart of the week was spent in company with him going over various farms on the project, explaining the nature of assistance being accorded the farmers by this office, and inspecting soils and crops and methods being used by farmers on the "gumbo" soils. A trip over the Project from Malta to Glasgow was made in company with Mr. Cooley, Project Manager Stratton, and Mr. C. C. Wright. A general conclusion was

Milk River (continued).

reached that the method of irrigating "gumbo" fields should be that of applying light but frequent amounts of water. In such practice the need for having a thoroughly workable system of ditches and dikes is especially important and a special effort is being made toward the introduction of proper systems on these heavy soils. It is also being held forth that much of the difficulty of getting crops started on "gumbo" land may be overcome by adopting a regular habit of fall plowing. The seeding of such soils to either yellow or white sweet clover is in many fields proving a means for supplying some humus to these soils and for getting grain or alfalfa started later.

The rainfall has been unusual in amount this season and as a result there are very few persons irrigating crops on the project, and even fewer calls for assistance in irrigation problems. Some good systems are, however, being installed on the farms of owners who understand the value of proper irrigation systems, and through such persons an earnest attempt is being made to illustrate in a positive way the benefits to be found. It is regrettable to note over the entire project many fields provided with systems of irrigation, growing good crops of alfalfa and grain, which should be irrigated, and are not, because of the attitude the owner takes toward irrigation. Reliance has been made on the prospect of rain and the rainfall has not been sufficient for the low valley fields. Dry farm areas, however, show excellent prospects.

A survey of economic conditions as related to the farming methods by the owner and the size of the farm owned, is to be made of a number of farms (possibly 20 or more) and the data therefrom included in final report of the agriculturist. The purpose of this survey is to assist in determining more definitely the precise methods being employed by farmers, together with conclusions as to the methods which should be in some cases substituted - along with further evidence of just what is a proper sized farm under conditions on this project.

Wednesday and Thursday were spent in assisting in the classification of soils, and in inspection of fields in the Glasgow and Vandalia vicinity. Friday was used in office work at Malta. Saturday was spent in giving advice on crop management and grasshopper control on the farms of Mr. Combs and Mr. Marjarrison, lying between Malta and Dodson. One office conference was had during the week with Mr. I. D. O'Donnell, agricultural representative of the Great Northern Railway company. Plans for combining efforts in serving farmers were arranged.

Sun River.

Weather conditions during the week ending June 24 have been warm and dry with winds which have dried up nearly everything. It is astonishing how rapidly the need of irrigation has grown the past few days. Crops that a week ago had the appearance of not needing water for some time to come are at the present time suffering for water. This condition has caused a rush for water and an increased demand for help in getting ready for the water. As usual the farmers have been slow in getting their

Sun River (continued).

ditches ready, and now many of them have their crops suffering while they are ditching and preparing to take the water.

During the week 17 farms have been visited, and on most of them a great deal of work has been done. Systems of irrigation have been laid out on 720 acres of land, besides several small jobs. Most of the systems have been for temporary borders as most of the land on the project is adapted to the border system of irrigation. Seven farmers have called at the office and two others have phoned.

Conditions are looking better every day for a good crop this fall, and from all indications irrigation is the factor that will make the crop sure.

North Platte Irrigation and Ground Waters.

The water supply of the North Platte Project is diverted from the North Platte River, west of the state boundary between Wyoming and Nebraska. The quality of this irrigation supply was reported on by Stabler in Water Supply Paper 274 on samples collected near Fort Laramie from July, 1906, to April, 1907. Item 1 in the accompanying table shows the percentage of total salts reported by Stabler and the percentage of the various important constituents based on the total salt. These results show that the North Platte water is relatively rich in calcium and magnesium, low in chloride, and high in sulphate.

Samples of irrigation water collected at the Scottsbluff Experiment Farm in 1913 were analysed by Breazeale and the mean of these analyses is reported as item 2 in the table.

Another sample of irrigation water collected at the Scottsbluff Experiment Farm in June, 1922, is reported as item 3 in the table.

The sandy soils of the North Platte Project admit the free percolation of the irrigation water. As a consequence, there has been an accumulation of ground water in some of the lower areas of the project, necessitating drainage. It has been observed that the drainage of these waterlogged areas has been followed by a complete recovery of the productivity of the soil. There has been none of the bad after effects so often observed on other projects from the waterlogging of the soil. The reason for this may be found in the character of these underground waters, two samples of which have recently been examined and the results reported as items 4 and 5 in the accompanying table. These samples of underground water show a total salt content only about 50% above the salt reported in the irrigation water and the proportion of calcium and magnesium in the ground water is approximately the same as in the irrigation water. These results indicate that under the conditions at North Platte, there is much less evaporation loss of irrigation water than occurs on many other projects. No doubt the soil and climatic conditions fully account for this. The precipitation on the North Platte Project is almost sufficient to support crop production. This precipitation, together with the liberal use of irrigation water, combine to prevent the accumulation of salt in the underground water, wherever that water is permitted a free outflow to the river.

North Platte Irrigation and Ground Waters.

Percentage Composition

Item	Total salts	Ca. & Mg.	Co ₃ & $\frac{\text{HCO}_3}{2}$	Cl.	SO ₄	Total acids
1.....	.0403	21.4	19.1	4.8	37.0	60.9
2 .....	.0256	26.2	32.6	6.6	29.3	68.5
3 .....	.0269	22.3	25.0	Tr.	29.0	54.0
4 .....	.0340	24.0	38.5	8.2	17.7	64.4
5 .....	.0362	19.4	31.2	5.8	20.0	56.0

- No. 1 North Platte River near Fort Laramie, Wyoming. Mean of analysis of samples taken from July 1906 to April, 1907. H. Stabler, Water Supply Paper 274.
- No. 2 Irrigation water at Scottsbluff Experiment Farm. Mean of 6 samples taken May - September, 1913. Analysed by Breazeale.
- No. 3 Irrigation water at Scottsbluff Experiment Farm. One sample taken June, 1922. Analysed by Scofield.
- No. 4 Drainage water, Hierschi drain (open) near Lake Alice, June, 1922. Analysed by Scofield.
- No. 5 Drainage water, Dunham drain (covered). June, 1922. Analysed by Scofield.

C.S.S.

THE JOURNAL OF THE

ROYAL SOCIETY OF MEDICINE

Year	1890	1891	1892	1893	1894	1895
1890	100	100	100	100	100	100
1891	100	100	100	100	100	100
1892	100	100	100	100	100	100
1893	100	100	100	100	100	100
1894	100	100	100	100	100	100
1895	100	100	100	100	100	100

The Journal of the Royal Society of Medicine is published quarterly, in the months of January, April, July, and October. It contains original researches, clinical reports, and reviews of the literature of medicine and surgery.

The Journal is published by the Royal Society of Medicine, 11, Bedford Square, London, W.C.1.

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Advertisements are accepted for insertion in the Journal on the following terms:—

First page, 10s. per line; second page, 8s. per line; third page, 6s. per line; fourth page, 4s. per line.

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W E E K L Y B U L L E T I N

Of the Offices of

WESTERN IRRIGATION AGRICULTURE And DEMONSTRATIONS ON RECLAMATION PROJECTS

Vol. XXI.

July 8, 1922

No. 2

Western Irrigation Agriculture.

Belle Fourche.

The maximum temperature for the week ending July 1 was 84, minimum 51, and precipitation .76 inch. The total precipitation for June was 3.58 inches and the precipitation from January to June, inclusive, has been 12.18 inches.

Harvesting of the first cutting of alfalfa was all completed with the exception of one day's hauling, the yield for this cutting being above the average for the last ten years. The maximum yield from the fall seeded alfalfa was .48, minimum .16, and average .30 tons per acre. Old alfalfa yields were as follows: maximum, 1.98; minimum, .58; and average 1.28 tons per acre. On the 22nd, a heavy wind storm scattered some of the hay on the irrigated rotations and this reduced the yields materially. The yield of alfalfa in the Maximum Production Test was 2.25 tons per acre. During the week potatoes, corn, and sugar beets were cultivated, and the alfalfa in field A irrigated. All crops are in the best of condition.

In some sections of the project grasshoppers are doing some damage and poison bait is being put out in these localities.

The eight annual farm picnic will be held at the experiment farm July 22. The boys and girls camp will be held the same week, July 17 to 21.

Beyer Aune.

Newlands.

The warm weather which prevailed during the period June 12 to July 3 produced a vigorous growth of all crops. It also has caused a corresponding growth of weeds, thus making it necessary to cultivate the various crops. The corn and beets on the rotation plats were cultivated and the latter crop thinned. The flax, sorghum, and potatoes on H were also cleared of weeds.

There have been two irrigations during this period; the one on the 20th of June covered C-2, 3, 4, 5, 6, 7, 8, 9, and 10; D-2, 3, 6 and 7; all of E, and H-2 and 3. Water was again ordered on June 29 and 30. This irrigation covered all of Y, all alfalfa plats and the sorghum and flax on H.

The cutting of the first crop of alfalfa was commenced June 19. It was not until June 29 that the last of the first crop was in the stack. The average yield obtained from the first cutting was 1,805 pounds per acre.

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Newlands (continued).

The station was visited on June 17 by Messrs. Kelly, Shaw and Hoagland, of California. As these men made the trip for the purpose of viewing our local soil condition, the entire day was spent either at the station re-viewing our soil experiments or about the project. Much of the recent data obtained from our experimenting with alum was investigated. All three men appeared quite interested in the possibilities of this discovery.

E. W. Knight

Scottsbluff.

During the week ending July 1 the heat abated. The average maximum temperature recorded was 81 with a maximum of 84 on the 30th of June and 1st of July; and the average minimum was 55 with a minimum of 50 on the 28th. The precipitation for the week amounted to .39 inch in three different periods.

The first cutting of hay went into the stack in prime condition. This is true of practically all of the project. Very little hay was damaged.

Considerable work has been done this week in bettering conditions around the dairy barn, such as filling in the low places and providing better drainage.

The grasshopper pest continues serious. In some places the entire grain crop is being totally destroyed. The experimental work being carried on at the farm has not reached a point where definite results can be announced. Large quantities of poison such as has been used for a number of years is being put out but with indifferent results.

One of the most successful methods of combatting this pest that has been brought to our attention is one made use of by J. T. Whitehead of Mitchell. Last year he placed 500 chickens on 80 acres of a 160 acre farm. These were placed in colony houses with about 100 to the house and were moved as occasion required. He estimated that on the 80 acres where the chickens were pastured there were only about 20% as many hoppers as there were on the other 80 acres. This showing is considerably better than is made on most of the poisoned fields. In addition, after he and his renter had used what they needed of the poultry for domestic purposes, and after the weasels, coyotes, etc. had taken their toll, the balance was marketed and about 75% of the original investment was returned. This year he is stocking the farm with 1,000 chickens. It might prove to be a profitable investment and is certainly worth a trial.

James A. Holden.

Demonstrations on Reclamation Projects.Milk River.

Monday of the week ending July 1 was spent in surveying for ditches on the Edgar Lee ranch at Dodson. Mr. Lee is one of the few farmers on the Project who understands irrigation principles. Considerable work has been done on this ranch during both of the preceding years by Mr. Wright. Mr. Lee's interest in irrigation is doing much to persuade others in his neighborhood to better irrigation practice.

On Tuesday, the fields of the Great Falls Ranch at Bowdoin were inspected with a view to advising methods of farming. The entire holdings are in native blue-joint and mixed grass pastures in heavy gumbo soil, much of which is poorly drained. Much of the land is believed at present unfitted for other than the use that is at present being made of it. Certain of the better drained areas, however, should produce good alfalfa and eventually cultivated crops or grain. Directions as to plowing and seeding were given. Irrigation methods were discussed. It is doubtful, however, if any but the most persistent methods of farming will produce satisfactory returns to pay for irrigating these lands.

Considerable rain fell at intervals during the week and when field work was impracticable the time was spent in the Malta office writing up reports of interviews with farmers held during the week. An effort is being made to collect useful data concerning the attitude of water users toward irrigation possibilities on the project, - to ascertain their ability or inability to pay for the pro-rated water costs.

Considerable time is being spent in interviewing farmers in this regard from a list suggested by the Project Manager. The report and conclusions of these findings are to be included in the final report for the season from this office.

The Paul Labree ranch was inspected on Thursday. On Friday the Pete Taylor ranch was visited, and general farming methods gone over at length with Mr. Taylor. A number of fields suffering from grasshopper attacks have been inspected by request, and control methods have been outlined in detail.

Saturday was spent in level work on the Combs' ranch running lines for new ditches and dikes on 20 acres of new land. Some changes in old ditches were planned.

Excellent growing weather with unusual rainfall is giving very promising indications for big harvests. On all the dry farm areas abundant rainfall has marked a decrease in use of irrigation water. Opportunities for actual demonstration of irrigation practice is limited to the individual farms.

Thatcher Allred.

Newlands.

Most of the time during the week ending July 1 was devoted to herd testing work. The month's herd testing work was closed with a total number

Newlands (continued).

of herds tested as 65, comprising 934 cows or 14.3 cows per herd. The month herd average for the 65 herds on test was 794.74 pounds of milk and 31.08 pounds of butterfat. This report covers the largest number of dairy herds ever tested on this project. The samples were almost all taken by this office and the final herd average may be considered to be representative of the dairy production of the valley for the month of June. Herd testing on such a large scale by this office was discontinued with the June testing. An effort will be made now to organize a herd testing association which will carry on the work.

The black-head disease in turkeys, which has been very threatening for the past month, seems to be well under control, and, with all the turkeys fast increasing in size and strength and resistance to the disease, it is not expected that there will be any serious losses from black-head this season. Wide publicity was given control measures for holding black-head in check and the remedies were very generally used. Results seem to have proven that the course of treatment is sufficient to hold the disease in check.

The harvesting of the first crop of alfalfa hay has been going on for about two weeks. The yields are reported to be very good. Many of the ranchers, with large acreage, are having considerable difficulty in securing harvest labor. Wages, which started at \$2.50 per day, have increased to \$3.00 per day, and there are not sufficient men to handle the crop as promptly as it should be handled.

L. E. Cline.

North Platte.

The dairy herd was tested by a federal veterinarian during the week ending July 1 and found to be free from tuberculosis. The herd will remain under supervision until accredited.

Ten high grade and pure bred Holsteins are now in milk and are being used in the pasture tests. They are divided into two groups of five cows each. The groups are alternated every two weeks between the blue grass and the sweet clover pastures. Daily milk records are kept and the cows are weighed every two weeks. At the present time the blue grass pasture of 3 acres is carrying seven cows and two young bulls and the sweet clover pasture of the same area is carrying five cows and six yearling heifers.

A map of the project showing the number of cows on each farm shows one or more on 60% of the farms. On most of these, however, only a few cows are kept. In many instances the number is as low as one, two or three. The number of farms reporting from 5 to 10 cows was 125. On only 23 farms on the project, herds of 10 cows or more were reported.

In order that farmers who have a few cows may increase and improve their herds, the service that is most needed at the present time is to provide good pure bred bulls of the dairy breeds at a reasonable cost per cow. Undoubtedly this can be accomplished best through cooperative ownership of sires. It is quite possible that a few bull associations may be organized. This, with pasture demonstration work, will constitute the major part of the dairy work for a while.

D. H. Propps.

Shoshone.

During the week ending July 1, eight farm visits were made and 33 requests for assistance were received.

One-half of the week was used in making a trip to the Huntley Experiment Farm and to the Agricultural College, at Bozeman, Montana, to secure information concerning poultry and live stock and problems relating thereto.

Worms and plant lice have been doing considerable damage to young orchards and small fruit vines, and some time was given during the latter part of the week advising owners as to the proper treatment. Fruit growing is not extensive but there is a growing interest in the small kinds.

In cooperation with the county agent, the mixing of grasshopper poison was demonstrated to farmers living southeast of Powell and south of Garland.

The Powell Mercantile Company, which is owned by the Worden creamery, has been operating a cream route on the project for the week. Farmers seem to appreciate the service, during the busy season at least, for the local creamery and other cream stations have noticed a marked decrease in cream receipts.

The average price of cream for June was 29.3 cents.

G. A. Wright.

Sun River.

During the week ending July 1, eighteen visits have been made to farms on the project; systems of irrigation have been laid out on 640 acres of land; sixteen farmers have called at the office; one has written in; and several have been interviewed while in the field.

The forepart of the week was very dry and some of the crops were suffering from lack of moisture. Irrigation was on in full swing, and many of the farmers were worrying because they had put off preparing for the water until they were in actual need. This caused some of them to miss their turns in the rotation with consequent losses. Thursday the main canal broke about seven miles above Fairfield. This came at a critical time, but rain on Thursday and Friday made conditions more promising. In fact they look better than they did a week ago.

A section of about 30 feet was washed out of the ditch but work was begun immediately repairing it. A flume is being built across the gap and the indications are that the water will be in again July 2.

Many of the farmers here have lost heavily through not being prepared to take the water when their crops needed it. Undoubtedly the experiences of this season will be a lesson to them as many of them are beginning to get ready now for next seasons irrigating.

M. B. Jensen.

Uncompahgre.

Part of two days of the week ending July 1 was spent in trying to see owners of tubercular cows, some of whom want to ship their cows to Denver for slaughter as they are holding them at considerable trouble and expense. Part of them do not want to ship, however, and there are not enough others to make a car load.

Perennial pepper grass, a bad weed pest, has been getting a start on the project the past two years. The State maintains a weed control office at Paonia, and the man in charge was assisted part of one afternoon in making a control test on a patch of ground badly infested with the weed. It is similar in habits of growth to bind weed which is so bad in places as to make land almost useless. Tests with a spray of sodium arsenate have given very promising results in the control of this weed and it is hoped will do as well with the pepper grass.

One club meeting was held and an afternoon spent in studying stock judging. As much of this work as possible will be done from July 1 to Fair time.

A caponizing demonstration was held one afternoon with Dr. Griffiths and Mr. Sonnenberg, a local poultry dealer. Twenty men and women attended and considerable interest was shown. The demonstration was given by request of poultry raisers.

Hogs were examined for Mr. Meaker with Dr. Griffiths. One pig had died with symptoms resembling cholera, but no cholera lesions were found. This was the same farm on which seven pigs were lost recently following castration.

Milk tests were made for one man near Delta who owns a small herd of Jerseys. Suggestions regarding feeding and general care of the cows were made as it was believed the herd was not producing as well and economically as they could be made to do so.

H. A. Ireland.

NEWLANDS IRRIGATION AND GROUND WATERS.

The water supply for the Newlands Reclamation Project is obtained from the Truckee and Carson rivers, both of which are fed by snow waters from the high Sierras. The Truckee river, which drains Lake Tahoe, is diverted near Derby, Nevada, and the water carried by a canal which empties into the Carson river south of Hazen.

The waters of the Carson river are impounded by a reservoir located up stream from the outfall of the Truckee canal.

The character of the water supply of the Newlands Project is shown in Table I. This table shows that the irrigation water carries very little salt.

Table I.- Newlands Irrigation Waters.

Percentage composition.

Item.	Total salts	Ca. & Mg.	$\text{CO}_3 \text{ \& } \frac{\text{HCO}_3}{2}$	Cl.	SO ₄	Total acids
1 .....	.0143	18.8	31.0	9.1	15.0	55.1
2 .....	.0199	20.3	25.5	6.2	25.0	56.7
3 .....	.0218	17.1	30.5	5.0	14.2	49.7
4 .....	.0158	10.1	34.0	9.5	23.0	66.5

No. 1 Truckee River, Derby, Nevada. Mean of analyses of samples taken from April, 1906, to March, 1907. H. Stabler, Water Supply Paper 274.

No. 2 Carson River at Diversion Dam near Hazen, Nevada. Mean of analyses of samples taken from April 1906, to April, 1907. H. Stabler, Water Supply Paper 274.

No. 3 Irrigation water at Newlands Experiment Farm. Mean of 5 samples taken May - November, 1913. Analysed by Breazeale.

No. 4 Irrigation water at Newlands Experiment Farm. Mean of 3 samples taken June, 1922. Analysed by Knight.

Newlands Irrigation and Ground Waters....continued

Notwithstanding the low salt content of the water supply, there has been a good deal of trouble with alkali on the Newlands project. Much of the irrigated land of this project lies in what was formerly the bed of Lake Lahontan and the soils in many places are highly impregnated with salts. It has been found difficult to leach the salt out of the lower lands because of the high water table.

The Newlands Experiment Farm, located just south of Fallon, Nevada, represents the typical lake bed area. The farm is underlain by a water table, which, though fluctuating somewhat in height with the irrigation season, is seldom much more than four feet below the surface of the ground. It became necessary, in 1912, to provide drainage for some of the lower fields on the experiment farm where the water table came close to the surface and where the accumulation of salt became serious. Box drains were installed late in 1912 to relieve the ground water conditions in fields F and H. Late in 1913, a tile drain was laid along the south side of field Y. These drains led to the sump near the southeast corner of the experiment farm from which the water was lifted by an electrically driven pump and discharged into a roadside surface drain. A deeper open drain was extended into the district south of the experiment farm in May, 1915, so that the lifting of the farm drainage water was no longer necessary.

From January, 1913, until May, 1915, the drainage water discharged from the experiment farm drains was measured at the pump and weekly samples of the drainage water were tested for total salts. Since May, 1915, when the gravity outflow for the drainage water was provided, the discharge has been measured by reading a weir installed just below the old sump.

The records of the earlier attempts to relieve the ground water situation on the experiment farm are summarized in tables II, III and IV.

Newlands Irrigation and Ground Waterscontinued.

Table II.- Newlands Experiment Farm. Drainage in 1913, showing rate of outflow, percentage of salt in drainage water and pounds of salt discharged per day based on weekly sample.

Month.	Discharge rate, cu. secs.	% Salt in drainage water	Pounds of salt discharged per day.
<u>1913</u>			
January .....	.00804	.250	108.5
February .....	.01285	.239	166.0
March .....	.02680	.232	336.0
April .....	.04610	.285	710.0
May .....	.05580	.323	974.0
June .....	.03075	.296	486.0
July .....	.01695	.247	226.0
August .....	.01250	.196	132.0
September .....	.01570	.184	156.0
October .....	.01340	.179	129.0
November .....	.01106	.187	112.0
December .....	.01294	.183	128.0

The Journal of the

Society for the Study of the History of the

The following is a list of the names of the members of the Society for the Study of the History of the

Name	Address	City	State
1. Mr. J. H. Smith	123 Main St.	New York	N.Y.
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3. Mr. C. D. Brown	789 Oak St.	Chicago	Ill.
4. Mr. E. F. Green	101 Pine St.	Philadelphia	Pa.
5. Mr. G. H. White	234 Cedar St.	San Francisco	Calif.
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7. Mr. K. L. Gray	890 Spruce St.	Seattle	Wash.
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10. Mr. Q. R. Lee	1777 Walnut St.	Cincinnati	Ohio
11. Mr. S. T. Young	2000 Chestnut St.	Pittsburgh	Pa.
12. Mr. U. V. Adams	2333 Locust St.	Kansas City	Mo.

Newlands Irrigation and Ground Waterscontinued.

Table III.- Newlands Experiment Farm. Drainage in 1914, showing rate of outflow, percentage of salt in drainage water, and pounds of salt per day based on weekly samples.

Month.	Discharge rate, cu. secs.	% Salt in drainage Water	Pounds of salt discharged per day.
<u>1914</u>			
January .....	.0134	.249	180
February .....	.0195	.278	292
March .....	.0352	.322	612
April .....	.0440	.305	724
May .....	.0440	.313	744
June .....	.0353	.276	537
July .....	.0687	.290	1075
August .....	.0677	.351	1182
September .....	.0301	.360	584
October .....	.0222	.364	436
November .....	.0345	.304	566
December .....	.0185	.447	447

STATE OF NEW YORK

OFFICE OF THE COMPTROLLER OF THE STATE
 ALBANY, N. Y., JANUARY 1, 1901.
 REPORT OF THE COMPTROLLER OF THE STATE
 FOR THE YEAR 1900.

DEPARTMENT	AMOUNT PAID	AMOUNT RECEIVED	REMARKS
100	1000	1000	PAID TO THE STATE TREASURY
200	2000	2000	PAID TO THE STATE TREASURY
300	3000	3000	PAID TO THE STATE TREASURY
400	4000	4000	PAID TO THE STATE TREASURY
500	5000	5000	PAID TO THE STATE TREASURY
600	6000	6000	PAID TO THE STATE TREASURY
700	7000	7000	PAID TO THE STATE TREASURY
800	8000	8000	PAID TO THE STATE TREASURY
900	9000	9000	PAID TO THE STATE TREASURY
1000	10000	10000	PAID TO THE STATE TREASURY
1100	11000	11000	PAID TO THE STATE TREASURY
1200	12000	12000	PAID TO THE STATE TREASURY
1300	13000	13000	PAID TO THE STATE TREASURY
1400	14000	14000	PAID TO THE STATE TREASURY
1500	15000	15000	PAID TO THE STATE TREASURY
1600	16000	16000	PAID TO THE STATE TREASURY
1700	17000	17000	PAID TO THE STATE TREASURY
1800	18000	18000	PAID TO THE STATE TREASURY
1900	19000	19000	PAID TO THE STATE TREASURY
2000	20000	20000	PAID TO THE STATE TREASURY

Newlands Irrigation and Ground Waterscontinued.

Table IV.- Newlands Experiment Farm. Drainage, 1915, showing pounds of salt discharged per day, based on weekly weir readings and samples.

Month.	Pounds of salt discharged per day.
<u>1915</u>	
January	311
February	322
March	284
April	351
May	264
June .....	....
July .....	....
August	382
September	88
October	80
November	139
December	32

Table II, which covers the year 1913, shows the rate of discharge at the pump in cubic feet per second, average for each month, the percentage of salt in the drainage water, also average for each month, and the pounds of salt discharged per day. In table III, similar records are given for 1914, while in table IV only the pounds of salt discharged per day is given.

The report of the work of the Truckee-Carson Reclamation Project Experiment Farm in 1915 summarizes the drainage work for the three-year period and concludes with the following statement: "A total of 214 tons of alkali has been removed by this drainage system in the three years, approximately 8.5

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Newlands Irrigation and Ground Waters....continued.

tons for each acre of the area drained (this is based on the assumption, probably not warranted, that the water removed was drawn from the 25 acres of irrigated land tapped by the drainage system). The amount of salt in the upper 3 feet of this portion of the farm is approximately 9 tons per acre, or about the same quantity as has been removed in three years by the drainage system. The soil of the area served by the drainage system does not show any appreciable reduction of its salt content in the upper 3 feet. It would appear, therefore, that the tile drainage system draws alkali water either from sources deeper than the surface 3 feet of soil or from an area much larger than the actual extent of the system. Beneficial results, as indicated by the improvement of the crops, do not seem to have been obtained as yet from the installation of this system of drainage, although it may have prevented a general rise of the ground water that would have been of serious consequence".

The present situation as regards the drainage of the Newlands Experiment Farm is shown in Table V.

Table V.- Newlands Experiment Farm. Drainage 1922, showing rate of outflow, percentage of salt in drainage water and pounds of salt discharged per day, based on weekly weir readings and samples.

Date.	Discharge rate cu. secs.	% Salt in drainage water	Pounds of salt discharged per day
<u>1922</u>			
March 16 .....	.00041	.6086	13.5
March 23 .....	.00041	.5938	13.1
March 30 .....	.00030	.6139	10.0
April 6 .....	.00015	.6527	5.2
April 13 .....	.00083	.5873	26.3
April 20 .....	.00030	.6184	10.0
May 4 .....	.00345	.4346	81.0
May 11 .....	.02600	.2814	395.0
May 18 .....	.02260	.2841	346.0
May 25 .....	.01040	.2907	163.0
June 1 .....	.01040	.3305	186.0
June 8 .....	.01400	.2143	162.0
June 15 .....	.02260	.2609	318.0
June 22 .....	.01580	.2246	192.0
June 29 .....	.00470	.2158	55.0

Newlands Irrigation and Ground Waterscontinued.

The records in this table cover the period from the week ending March 16, 1922 to the week ending June 29, 1922. This table shows that during the early part of the season the rate of discharge from the drainage system was low, and, though the salt content of the drainage water was high, only a small quantity of salt was discharged per day. Beginning with the week ending May 4, there was an increase in the discharge rate which was still more marked the following week. This increase in the rate of discharge was accompanied by a reduction in the salt content of the water, but, notwithstanding this reduction, the quantity of salt discharged became very large and remained so during the next 6 weeks. The discharge rate and the salt content of the summer period so far as covered by this table show a condition very similar to that of the earlier years of the drainage system.

The quality of the drainage water discharged during the present season is shown in table VI.

Newlands Irrigation and Ground Waters.....continued.

Table VI.- Newlands Experiment Farm Drainage Water.

Percentage composition.
Outlet Weir at southeast corner of Farm

Date.	Total salts	Ca.	CO ₃ & $\frac{\text{HCO}_3}{2}$	Cl.	SO ₄	Total acids
1922						
March 16 .....	.6086	0.5	15.8	8.5	31.6	55.9
March 23 .....	.5938	0.4	17.9	8.8	25.6	52.3
March 30 .....	.6139	0.5	18.1	8.7	26.1	52.9
April 6 .....	.6527	0.4	17.6	7.8	25.7	51.1
April 13 .....	.5873	0.5	17.7	8.0	28.6	54.3
April 20 .....	.6184	0.5	16.5	8.4	29.7	54.6
May 4 .....	.4346	1.3	15.0	9.1	33.2	57.3
May 11 .....	.2814	1.7	14.1	7.8	32.7	54.6
May 18 .....	.2841	1.8	11.8	8.5	36.7	57.0
May 25 .....	.2907	1.3	15.9	9.0	27.5	52.4
June 1 .....	.3305	1.3	16.2	8.6	27.8	52.6
June 8 .....	.2143	1.8	17.4	7.8	26.1	54.3
June 15 .....	.2609	1.2	17.7	8.7	24.6	51.0
June 22 .....	.2246	1.5	16.3	7.3	28.5	52.1
June 29 .....	.2158	1.4	17.0	9.9	26.0	52.9

Box at Y-13.

	Total salts	Ca.	CO ₃ & $\frac{\text{HCO}_3}{2}$	Cl.	SO ₄	Total acids	Total salts by bridge
June 15 ...	.3387	0.6	16.0	6.7	30.7	53.4	.2920
June 22 ...	.2391	0.9	17.6	5.9	26.8	50.4	.2090
June 29 ...	.2341	0.2	19.4	7.3	22.2	48.9	.2300
Mean .....	.2706	0.6	17.7	6.6	26.6	50.9	

Box at H-24s

	Total salts	Ca.	CO ₃ & $\frac{\text{HCO}_3}{2}$	Cl.	SO ₄	Total acids	Total salts by bridge
June 15 ...	.2013	2.3	17.8	9.1	23.8	50.7	.1830
June 22 ...	.2550	2.0	15.6	8.1	29.8	53.5	.2380
June 29 ...	.2459	2.4	16.4	9.5	30.9	56.8	.2480
Mean .....	.2341	2.2	16.6	8.9	28.2	53.7	

Newlands Irrigation and Ground Waters....continued.

Prior to June 15, the drainage water was sampled only at the outflow weir. Beginning with June 15, samples were taken also at a box opposite plat Y-13 to obtain a sample of drainage from the west end of the Y series, and from a box opposite plat H-24 to obtain a sample of the drainage water from the east side of the experiment farm.

A comparison of the composition of the drainage water with the composition of the irrigation water shows that when the drains are discharging freely, as during May and June, the drainage water carries about ten times as much salt as the irrigation water. This comparison shows also that the proportion of calcium in the drainage water is much lower than in the irrigation water. In fact, the actual lime content of the drainage water is generally lower than that of the irrigation water. This indicates that there has been a marked absorption of lime from the irrigation water, accompanied by a displacement of soda from the soil.

These records show that even after ten years of drainage, the salt content of the underground waters of the experiment farm has not changed materially.

C. S. S.

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W E E K L Y B U L L E T I N

Of the Offices of

WESTERN IRRIGATION AGRICULTURE and DEMONSTRATIONS ON RECLAMATION PROJECTS

Vol. XXI.

July 15, 1922.

No. 3

Western Irrigation Agriculture.

Huntley.

The maximum temperature for the week ending July 8 was 93, minimum 51, and precipitation .35 inch.

Frequent showers during this period interfered somewhat with hay harvest, although the crop generally was gathered in fairly good condition. Excellent yields occurred on most parts of the project. Other crops are in good condition, and grain especially has been benefited by the unusually heavy rainfall during June. The precipitation for this month amounted to 4.68 inches, while the normal for the month is about 2.26 inches. The total rainfall during the six months, January to July, was 13.73. Heavy rains have occurred in most parts of the state, and crops, excepting over an area in the vicinity of Great Falls and Havre, are reported to be in excellent condition.

Some damage to crops has occurred from grasshopper invasion, although this is being controlled to a large extent through the use of poisoned bran mash. Yellowstone county has purchased and distributed 120 tons of bran. "Mixing bees" have been held in various communities in the infested areas. At the experiment farm about 20 tons of treated bran was distributed in lots of from 100 to 400 pounds for each farm unit in the neighborhood. Reports from farmers on the effectiveness of the bran treatment are generally favorable.

Station work performed during the period consisted of harvesting alfalfa; cultivating beets, corn and potatoes; and irrigating.

County agents from the five neighboring counties were visitors at the experiment station on July 8.

Dan Hansen.

Irrigated Rotations.

During the week ending July 1, hay from the rotations was harvested, the average tonnage per acre of all plats for the first crop being 2.28 tons.

During the week ending July 8, work on the rotations consisted of fixing up the ditches and irrigating the alfalfa and grains in field K.

Grasshoppers are still numerous but are being held in check somewhat by poisoning.

Two plats of beets, KV-6 and KV-8 were attacked by the web worm but were sprayed before much damage was done.

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Huntley (continued).

The continuous plat of beets, L-IV-5, has been almost destroyed by black root.

All of the potatoes have been sprayed twice in the last two weeks.

John Bowen.

Newlands.

Results of Pig Feeding Experiment, 1922.

The pig feeding experiment has now been conducted for ten weeks and is giving some very interesting results. This is a double experiment in which (1) gains on pasture are compared with gains from feeding dry hay, and (2) a two per cent barley ration is compared with a ten per cent milk ration.

The detailed results are given in the following table:

Table I.- Hog pasture experiment, Newlands Experiment Farm,
May 3 to July 12-- ten weeks.

Item.	Pasture Lot.		Dry Feed Lot.	
	2% Barley	10% Milk	2% Barley	10% Milk
Number of pigs	5	5	5	5
Initial weight .....pounds	229	243	214	218
Final weight do....	385	378	359	346
Gain do ...	156	135	145	128
Daily gain do ...	2.23	1.93	2.07	1.83
Daily gain .....per cent	.745	.633	.742	.665
Barley fed .....pounds	414	....	369	....
Milk fed do ...	....	2080	....	1883
Value barley @ \$1.50	\$6.21	....	\$5.54	....
Value of milk @ 1 cent per gallon ...	....	\$2.60	....	\$2.35
Cost of gain per cwt.,	\$3.98	\$1.93	\$3.82	\$1.84

It has been rather surprising to find that the per cent daily and the cost per pound of gain of the pasture fed and hay fed lots are practically the same.

The cost of the milk for this experiment has been 1 cent per gallon or $12\frac{1}{2}$ cents per cwt., and the cost of barley has been approximately \$1.50 per cwt. At this rate, the milk fed lots are making gains at about one half the cost of the barley fed lots. If the results of this experiment are typical of what can be obtained in practice, it is evident that milk is worth 25 cents per cwt. when barley costs \$1.50 per cwt.

F. B. Headley

San Antonio.

The first rainy period for the year 1922 in the San Antonio region which began March 24, came to an end June 20 with a shower of .49 inch. During this period of 89 days there was a total precipitation, as recorded at the experiment farm, of 19.94 inches. Since June 20, there has been no precipitation.. The amount of dew precipitated during the last fifteen days of the period has been comparatively small; a strong factor in the natural control of the boll-weevils.

The first cotton flower, and the first plants dead from root-rot, appeared in the rotation and tillage fields on June 14. The occurrence of cotton root-rot this season appears to be much more general than at the beginning of the 1921 season. Last year the first dead plants in the rotation plats were observed June 1, and two weeks later dead plants to the number of 270 were found on seven plats. This year, two weeks after the first signs of the disease appeared, 24 plats were found to be infected with a total of only 239 dead plants. In 1921 the four continuously cropped plats contained 72, 17, 51 and 126 dead plants, respectively, two weeks after the first appearance of the disease; this season the same plats had 5, 4, 5, and 0 dead plants, respectively, after the same length of time. The largest number of dead plants found on one plat June 28, 1922, was 39 on A5-7. This plat is in a four-year rotation following milo; cotton occurs every other year, being alternated with grain sorghum and oats for hay.

Cotton has been blooming very sparingly since the first flower appeared June 14, due to boll-weevil damage. Close investigation by representatives of the office of Crop Acclimatization on July 6 revealed only 69 flowers on 850 plants counted. Although their damage has been severe, and punctured squares are very much in evidence in practically all fields, the adult weevils are exceedingly hard to find. A continuation of the dry, hot weather and steady southeast wind, which has prevailed for the past ten days should materially reduce the boll-weevil population.

Work done on the station during the four weeks period has included the following: two cultivations of all cotton plantings; harvest of all grain sorghum plantings in rotation and tillage experiments, and in the variety tests on fields B4 and C6; harvest of the first crop of sorghum in rotation plantings; completing the threshing of flax and small grains; harvest of Rhodes grass from B3 and B4; the hauling of gravel and repair of farm roads; miscellaneous hauling of hay; and the practically continuous process of chopping Johnson grass and weeds by a crew of six men.

A summary of meteorological data recorded for the four weeks period shows a maximum temperature of 97 on June 20; minimum 67, July 4; greatest daily range 31, on June 20; and precipitation 2.32 inches. There were 15 clear, 8 partly cloudy, and 5 cloudy days during the four weeks.

Messrs Ballard and Lytton, of the office of Crop Acclimatization, were at the station in the interests of their cooperative cotton experiments from July 2 to July 9, inclusive. Mr. Paul Jourdain, French cotton buyer with Le Blan Cie., Lille, France, who has been studying Texas cotton varieties at the Texas A. & M. college during the past month, was a station visitor on July 8.

G. T. Ratliffe.

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THE MEDICAL PROFESSION AND THE PUBLIC
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Scottsbluff.

Climatic conditions during the week ending July 8 were cool and cloudy. The average maximum temperature was 82, with a maximum of 90 on the 5th., and the average minimum was 54, with a minimum of 45 on the 6th. On the latter morning there was frost in a number of places in the upper Sheep Creek country along the state line, but no damage was done to growing crops.

The partial failure of the water supply on the farm necessitated the putting down of another well. A good flow of water was found in the sand at a depth of 75 feet.

The grasshopper pest grows worse. The preventive measures which are being taken do not seem to be producing results and there is considerable complaint being made by the farmers over the fact that they are compelled by law to use methods of fighting the pest which in many cases seems to do no good. The station will begin some tests next week with various sprays in an effort to find some successful remedy.

The water service has been very good this season. The irrigation on the farm is well up and crops are making a satisfactory growth. Irrigation commenced earlier this year than usual and the peak will be passed within a week or ten days.

J. A. Holden.

Yuma.

The maximum temperature for the week ending July 8 was 111, minimum 72, and greatest daily range 35. Several cloudy days with rains in adjacent sections resulted in a period of high humidity. Although threatened with rain at the station on several occasions, no moisture has fallen as yet.

The alfalfa seed harvesting on the project will begin next week. The present prospect for a good seed crop is not so favorable as it was a month ago. Considerable stripping of blossoms and pods, and burning from lack of moisture, will cut down the total yield considerably. It has been predicted by seed buyers that 12 cents to 15 cents will be the opening price for alfalfa seed.

Cotton prospects continue to look very favorable. The crop, at this stage, is setting in good shape, very little shedding of squares and young bolls having been reported.

The 4th of July Project Picnic, held on the experiment farm under the auspices of the Farm Bureau, was a complete success. The attendance was estimated at 1,200.

Station work performed during the week included planting of grain sorghum variety test, C19 to C28, inclusive; planting of corn variety test on C36 to C41, inclusive; harvesting alfalfa, D32 to D37; and general irrigating, cultivating and hoeing.

E. G. Noble.

Demonstrations on Reclamation Projects.Newlands

The principal activity for the week ending July 8 was herd testing work. During this time five herds were tested. This work completes the testing of the herds of the project for the month of June.

During the week the construction of two silos was taken up with two of the ranchers of the project who expect to build silos by the time their crops are ready this fall. The type of silo considered is the same as has been built heretofor on the project, namely a modified type of Guerler silo. This construction consists of 2 x 6 studding set on a double circular base sawed from inch lumber. The studding are lathéd on the inside with regular house lath, but spaced farther apart than for house plastering purposes in order to give a good heavy key for the cement. Over this lath is nailed inch mesh poultry netting. This surface is covered with two coats of cement plaster. For the protection of the silo the outside should be covered either with lumber, sheet iron or lath and cement plaster the same as the inside. This, however, has not been done with any of the silos built here and they seem to be standing up well.

There have been many complaints from the dairymen recently about trouble from contagious abortion. While this disease has been present on the project since the time that the first importations of cattle were brought here, the losses from this trouble seem to be worse just now than for two or three years past. The state is doing considerable work in immunizing against this disease in the valley. The work has not been carried on long enough to find out what benefits, if any, have been derived. The losses from abortion are so variable that it is difficult for the dairyman to tell whether or not his cessation of losses is due to the immunization.

During the past week there were 31 calls for assistance and 11 visits were made to ranchers.

The following report of dairy herds tested in June, 1922, was circulated among project dairymen by Mr. Cline:

Summary Report of Herds Tested in June, 1922.

Number herd.	Number of cows	Breed	Average Milk <u>Pounds</u>	Average Butter-fat <u>Pounds</u>	No. cows above 40-lbs.
1	2	Holstein	1047.00	30.76	1
2	22	Jersey	655.22	34.17	4
3	7	Holstein	777.86	26.41	1
4	2	Holstein	1110.00	50.64	2
5	18	Holstein	748.66	26.90	1
6	4	Holstein	645.00	24.90	1
7	21	Holstein	944.70	32.40	4
8	6	Holstein	920.00	32.86	2
9	5	Holstein	1056.00	39.77	2

AMERICAN MEDICAL ASSOCIATION

1914

The American Medical Association is a non-profit corporation organized for the purpose of promoting the science and art of medicine, and of improving the medical education of the people. It was organized in 1847, and has since that time been engaged in a constant effort to advance the interests of the medical profession and the public. The Association is composed of members from all parts of the United States, and from many foreign countries. It is the largest and most influential organization of the medical profession in the world. The Association's work is carried on through its various departments, which are devoted to the study and promotion of the science and art of medicine. The Association's publications, including the Journal of the American Medical Association, are widely read and highly valued by the medical profession. The Association's efforts have been instrumental in the advancement of the medical profession and the improvement of the medical education of the people. The Association's work is a testament to the power of organized medicine to advance the interests of the medical profession and the public.

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Dr. T. M. Green	101 Pine St.	Boston	Mass.	1914
Dr. S. K. White	234 Cedar St.	San Francisco	Calif.	1914
Dr. P. Q. Black	567 Birch St.	Los Angeles	Calif.	1914
Dr. M. N. Gray	890 Spruce St.	Portland	Me.	1914
Dr. L. O. Hall	123 Maple St.	Seattle	Wash.	1914
Dr. K. J. Young	456 Elm St.	Denver	Colo.	1914
Dr. H. I. King	789 Oak St.	Minneapolis	Minn.	1914
Dr. G. F. Lee	101 Pine St.	St. Paul	Minn.	1914
Dr. D. C. Miller	234 Cedar St.	Des Moines	Iowa	1914
Dr. B. A. Wilson	567 Birch St.	Omaha	Nebr.	1914
Dr. F. G. Moore	890 Spruce St.	Lincoln	Nebr.	1914
Dr. E. H. Taylor	123 Maple St.	Sioux Falls	S.D.	1914
Dr. C. D. Evans	456 Elm St.	Yonkers	N.Y.	1914
Dr. A. B. Reed	789 Oak St.	Albany	N.Y.	1914
Dr. N. M. Cook	101 Pine St.	Schenectady	N.Y.	1914
Dr. J. K. Baker	234 Cedar St.	Rochester	N.Y.	1914
Dr. I. L. Scott	567 Birch St.	Syracuse	N.Y.	1914
Dr. M. P. Adams	890 Spruce St.	Buffalo	N.Y.	1914
Dr. O. N. Baker	123 Maple St.	Chester	Pa.	1914
Dr. P. Q. Black	456 Elm St.	Philadelphia	Pa.	1914
Dr. R. L. Brown	789 Oak St.	Scranton	Pa.	1914
Dr. S. K. White	101 Pine St.	Lehigh Valley	Pa.	1914
Dr. T. M. Green	234 Cedar St.	York	Pa.	1914
Dr. U. V. Wright	567 Birch St.	Reading	Pa.	1914
Dr. W. E. Jones	890 Spruce St.	Easton	Pa.	1914
Dr. X. Y. Z	123 Maple St.	Scranton	Pa.	1914
Dr. A. B. Reed	456 Elm St.	Lehigh Valley	Pa.	1914
Dr. C. D. Evans	789 Oak St.	Easton	Pa.	1914
Dr. E. H. Taylor	101 Pine St.	Scranton	Pa.	1914
Dr. F. G. Moore	234 Cedar St.	Lehigh Valley	Pa.	1914
Dr. G. F. Lee	567 Birch St.	Easton	Pa.	1914
Dr. H. I. King	890 Spruce St.	Scranton	Pa.	1914
Dr. I. L. Scott	123 Maple St.	Lehigh Valley	Pa.	1914
Dr. J. K. Baker	456 Elm St.	Easton	Pa.	1914
Dr. K. J. Young	789 Oak St.	Scranton	Pa.	1914
Dr. L. O. Hall	101 Pine St.	Lehigh Valley	Pa.	1914
Dr. M. N. Gray	234 Cedar St.	Easton	Pa.	1914
Dr. N. M. Cook	567 Birch St.	Scranton	Pa.	1914
Dr. O. N. Baker	890 Spruce St.	Lehigh Valley	Pa.	1914
Dr. P. Q. Black	123 Maple St.	Easton	Pa.	1914
Dr. R. L. Brown	456 Elm St.	Scranton	Pa.	1914
Dr. S. K. White	789 Oak St.	Lehigh Valley	Pa.	1914
Dr. T. M. Green	101 Pine St.	Easton	Pa.	1914
Dr. U. V. Wright	234 Cedar St.	Scranton	Pa.	1914
Dr. W. E. Jones	567 Birch St.	Lehigh Valley	Pa.	1914
Dr. X. Y. Z	890 Spruce St.	Easton	Pa.	1914
Dr. A. B. Reed	123 Maple St.	Scranton	Pa.	1914
Dr. C. D. Evans	456 Elm St.	Lehigh Valley	Pa.	1914
Dr. E. H. Taylor	789 Oak St.	Easton	Pa.	1914
Dr. F. G. Moore	101 Pine St.	Scranton	Pa.	1914
Dr. G. F. Lee	234 Cedar St.	Lehigh Valley	Pa.	1914
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Dr. C. D. Evans	890 Spruce St.	Easton	Pa.	1914
Dr. E. H. Taylor	123 Maple St.	Scranton	Pa.	1914
Dr. F. G. Moore	456 Elm St.	Lehigh Valley	Pa.	1914
Dr. G				

Newlands (continued).Summary Report of Herds Tested in June, 1922 (continued).

Number Herd	Number of cows	Breed.	Average Milk <u>Pounds</u>	Average Butter-fat <u>Pounds</u>	No. cows above 40-lbs.
10	16	Holstein	973.87	33.91	5
11	24	Holstein	1036.75	38.14	8
12	22	J. & G.	679.91	31.81	5
13	20	J. & G.	899.85	37.05	4
14	11	J. & G.	732.27	32.42	2
15	25	Holstein	831.24	31.77	4
16	37	Holstein	634.70	22.91	0
17	25	J. & H.	686.76	28.85	3
18	2	Jersey	945.00	41.58	1
19	30	Holstein	756.60	30.12	5
20	34	Holstein	519.52	21.34	0
21	5	Jersey	912.00	43.04	4
22	7	Mixed	604.28	20.93	0
23	20	Holstein	844.35	31.85	3
24	9	Holstein	812.33	27.34	0
25	9	H. & J.	704.66	30.94	1
26	14	J. & H.	910.71	37.45	5
27	33	Mixed	659.18	27.76	2
28	7	Holstein	794.14	31.19	1
29	24	Holstein	794.62	29.51	2
30	57	Holstein	993.68	35.38	21
31	10	Jersey .	606.00	25.56	2
32	7	J. & H.	822.85	38.05	3
33	5	Holstein	717.00	28.46	1
34	13	H. & J.	724.61	26.77	3
35	13	Mixed	897.00	26.77	4
36	12	Holstein	1107.50	45.30	8
37	9	H. & J.	1081.66	36.93	4
38	11	Holstein	841.36	29.97	2
39	14	Mixed	370.71	15.25	1
40	22	Holstein	871.50	35.03	10
41	22	Mixed	627.27	21.87	1
42	22	Holstein	750.27	29.73	2
43	7	Jersey	630.00	30.72	2
44	41	Holstein	636.88	21.75	1
45	8	Holstein	671.87	32.37	1
46	4	Holstein	960.00	32.81	1
47	7	H. & J.	815.00	29.70	1
48	8	H. & J.	626.25	24.48	1
49	17	H. & J.	639.70	29.85	4

TABLE NO. 1. SUMMARY OF THE RESULTS OF THE INVESTIGATION.

Year	Month	Day	Time	Location	Remarks
1910	Jan	1	10:00	Station A	Clear sky, light breeze.
1910	Jan	2	11:00	Station B	Cloudy, moderate breeze.
1910	Jan	3	12:00	Station C	Clear sky, calm.
1910	Jan	4	13:00	Station D	Clear sky, light breeze.
1910	Jan	5	14:00	Station E	Clear sky, moderate breeze.
1910	Jan	6	15:00	Station F	Clear sky, light breeze.
1910	Jan	7	16:00	Station G	Clear sky, calm.
1910	Jan	8	17:00	Station H	Clear sky, light breeze.
1910	Jan	9	18:00	Station I	Clear sky, moderate breeze.
1910	Jan	10	19:00	Station J	Clear sky, light breeze.
1910	Jan	11	20:00	Station K	Clear sky, calm.
1910	Jan	12	21:00	Station L	Clear sky, light breeze.
1910	Jan	13	22:00	Station M	Clear sky, moderate breeze.
1910	Jan	14	23:00	Station N	Clear sky, light breeze.
1910	Jan	15	24:00	Station O	Clear sky, calm.
1910	Jan	16	25:00	Station P	Clear sky, light breeze.
1910	Jan	17	26:00	Station Q	Clear sky, moderate breeze.
1910	Jan	18	27:00	Station R	Clear sky, light breeze.
1910	Jan	19	28:00	Station S	Clear sky, calm.
1910	Jan	20	29:00	Station T	Clear sky, light breeze.
1910	Jan	21	30:00	Station U	Clear sky, moderate breeze.
1910	Jan	22	31:00	Station V	Clear sky, light breeze.
1910	Jan	23	32:00	Station W	Clear sky, calm.
1910	Jan	24	33:00	Station X	Clear sky, light breeze.
1910	Jan	25	34:00	Station Y	Clear sky, moderate breeze.
1910	Jan	26	35:00	Station Z	Clear sky, light breeze.
1910	Jan	27	36:00	Station AA	Clear sky, calm.
1910	Jan	28	37:00	Station AB	Clear sky, light breeze.
1910	Jan	29	38:00	Station AC	Clear sky, moderate breeze.
1910	Jan	30	39:00	Station AD	Clear sky, light breeze.
1910	Jan	31	40:00	Station AE	Clear sky, calm.

Newlands (continued).Summary Report of Herds Tested in June, 1922 (continued).

Number Herd.	Number of cows.	Breed	Average Milk. <u>Pounds</u>	Average Butter-fat <u>Pounds</u>	No. cows above 40-lbs.
50	6	H. & J.	1065.00	44.14	3
51	17	Holstein	671.11	26.43	0
52	10	Holstein	863.10	29.17	2
53	8	H. & J.	645.00	26.55	0
54	10	Mixed	567.60	27.21	0
55	5	Mixed	1194.00	40.81	3
56	7	Holstein	960.00	39.48	2
57	12	Mixed	1022.50	44.23	8
58	9	Jersey	511.66	23.24	0
59	8	Mixed	907.12	35.20	2
60	11	Mixed	570.27	26.35	1
61	4	Mixed	511.50	26.87	0
62	13	Holstein	1124.76	39.71	6
63	5	Mixed	1164.00	50.27	3
64	11	Holstein	667.09	24.04	0
65	26	Holstein	1095.11	34.48	7
Totals	934		52,766.11	2,065.65	183

The average production of these herds of cows for the month of June, as estimated from the one-day test made on each herd, was 811.78 pounds of milk per cow with an average test of 3.91 per cent yielding 31.78 pounds of butter-fat per cow. At the time these tests were taken these herds were producing at the rate of 63.56 pounds of butter-fat and 1560 pounds of skim milk for each ton of hay consumed, allowance being made for 1000 pounds of hay for each cow per month.

With the closing of the fiscal year, June 30th, dairy herd testing on an extensive scale on this project by the Department of Agriculture will be discontinued. Funds are no longer available for this work. Testing of cream samples, and other special testing work, will be done for any one desiring such tests run.

It is very important to the dairy development in this valley that herd testing work continue. Practically all enterprising dairy sections maintain a herd testing association for this purpose and it is the intention of this office to endeavor to organize a herd testing association in the very near future. Cooperation on the part of the dairymen in this effort will be very much appreciated.

L. E. Cline.

North Platte.

The first part of the week ending July 8 was spent with the live stock at the experiment farm. Now that the dairy is in good working condition and the pig feeding tests started, most of the time will be spent out among the farmers. An effort will be made to call on farmers especially who are interested in dairying. Whenever conditions warrant, meetings will be held and the work handled in an organized way.

This work was started the last of the week by calling on a few of the more prominent farmers and dairymen. They agree that the service that is most needed is the distribution of dairy bulls. A systematic personal canvass will be made and the project handled in the most practical way. In some instances neighboring farmers may be induced to buy a bull cooperatively. We hope to have available a few good sires for distribution on a loan proposition and it is quite possible that some cooperative bull associations may be formed.

D. H. Propps.

Shoshone.

During the week ending July 8, eleven farm visits were made and 43 requests for assistance were received.

The requests for assistance were received chiefly in regard to the presence of grasshoppers in several sections. The county agent having more than he could attend to, it was necessary for the Agriculturist to superintend the preparation of poison bait at Garland and Powell and the remainder of the week was largely given to field work in relation to grasshopper control.

With the exception of a few fields, potatoes are doing well and give promise of at least a normal yield. Bugs have not been especially numerous and grasshoppers have done little injury as yet.

G. A. Wright.

Sun River.

During the week ending July 8, 23 farm visits were made; five farmers called at the office; and irrigation systems were laid out on 660 acre of land. Mostly the temporary borders have been used as the land surveyed has been for the most part ideal for the border system of irrigation. One article has been written for the local paper, and one trip was made to Choteau, the county seat, to confer with the county agent. The work discussed consisted of some club work which was begun earlier in the season by Mr. Sutton.

A great deal of the work during the past week consisted of making surveys of the crops on the project in order to get water to those who needed it most urgently. The work was done in cooperation with the Reclamation Service. They accepted the decisions given and broke the rotation schedule in order to save the crops that were suffering most from the drought.

Sun River (continued).

A great many of the crops have suffered during the week from the dry, hot winds. The canal was repaired so that water was again delivered to the farmers Sunday July 2. Light showers having visited the project, the farmers consented to waive their rights to water until the more urgent needs had been attended to. This undoubtedly was the salvation of many crops. Irrigation has been going on as rapidly as possible with the decreased amount of water in the ditch. A general rain of nearly an inch came the latter part of the week to relieve the situation, and, as a consequence, conditions are considerably improved. The farmers have been very eager to get help during the rush season and seem to appreciate the assistance given. Many of them are using temporary borders where the land is suitable and there is an increasing demand for information concerning the establishment of permanent borders.

M. B. Jensen.

Uncompahgre.

Monday and Tuesday of the week ending July 8 were spent away from the office on leave.

The annual tour of the purebred live stock breeders' association was partially planned for this week with county agent King and Mr. Loesch of the Farm Bureau. It is planned to hold the tour this year in connection with the annual farm bureau tour and picnic. Last year the breeders' tour was held in Mesa county and this year it is to be in Montrose and Delta counties but as there are so few breeders of pure bred live stock in these counties it has been thought best to combine the tour with that of the Farm Bureau taking in other features than strictly live stock work.

Club work took up the greater part of the balance of the week, 12 members of pig clubs having been visited and advised regarding feeding methods. A club meeting was attended at Peach Valley with all members and the club leader present. The club was taken on a stock judging trip to Austin where the purebred Holstein herd of Artt Brothers was inspected. This is the first club ever organized in Peach Valley and the members are doing some exceptionally good work. All having pure bred Duroc-Jersey gilts of the same breeding and similar type. All of the boys borrowed money from the Delta banks with which to purchase their pigs, securing the money before the pigs were chosen and payed for them in cash at the time they were selected.

H. A. Ireland.

The American Medical Association is a non-profit corporation organized for the purpose of promoting the interests of the medical profession and the public. It is composed of members who are physicians, dentists, and other health care professionals. The Association's primary concern is the advancement of the medical profession and the improvement of the health of the people. It does this by publishing the Journal of the American Medical Association, which is one of the most widely read and respected medical journals in the world. The Association also sponsors a variety of educational programs and conferences, and it works to improve the standards of medical practice. In addition, the Association has been successful in many of its efforts to reform the medical profession, including the establishment of the American Medical Board of Standards and Practices and the American Medical Association's Code of Ethics. The Association's work is supported by the contributions of its members and by the generosity of the public.

Volume 23

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Volume 23

Waters of the Tempe District, Arizona.

The Tempe district is one of the older irrigated sections in the Salt River Valley. It is irrigated by diversion from the Salt River. For some years past there has been trouble in the Tempe district with a high ground water table, which caused surface deposits of alkali in the sections immediately south of the town of Tempe. This condition became so serious by 1914 that it was necessary to construct a drainage canal, which was completed early in the season of 1916. This canal, which heads about $3\frac{1}{2}$ miles south of Tempe, runs south towards the bed of the Gila River, discharging just above the flood plain of that stream on lands of the Pima Indian Reservation. This drainage canal has afforded substantial relief from the underground waters of the district.

The waters of this drainage canal have been sampled and analysed by representatives of the Department of Chemistry of the Arizona Experiment Station, samples having been taken each month since the drainage canal was completed. These analyses show the percentage of total solids; the chlorine; the total hardness, reported as calcium sulphate; and the alkalinity. These reports have been published from time to time in annual reports of the Arizona Experiment Station.

Mr. Breazeale has recently collected samples of representative waters in the Tempe district and the results of his examination of these waters are given in table I.

Table I.- Composition of the salts in the irrigation and under ground waters from the vicinity of Tempe, Arizona, July, 1922.
Collected and analysed by Breazeale.

Sample number.	Total salts, ppm.	In per cent total salts				Total acids
		Ca.	$\text{CO}_3 + \frac{\text{HCO}_3}{2}$	Cl.	SO ₄	
1	428	15.7	16.8	42.6	9.6	69.0
2	528	14.4	14.8	41.2	14.0	69.0
3	708	12.6	17.0	44.6	4.4	65.0
4	1448	5.7	17.4	38.7	9.6	65.7
5	2368	2.5	14.2	37.3	8.0	59.5
6	1220	13.5	21.3	31.5	10.2	63.0
7	2484	7.5	9.7	41.4	12.7	63.8

THE UNIVERSITY OF CHICAGO

The University of Chicago is a private research university in Chicago, Illinois. It was founded in 1837 as the first American university to be organized on the European model, with a focus on research and scholarship. The university has a long history of academic excellence and has produced many notable alumni, including several Nobel laureates. The university is known for its commitment to intellectual freedom and its diverse student body. It has a large endowment and is one of the wealthiest universities in the United States. The university is organized into several divisions, including the Division of the Physical Sciences, the Division of the Biological Sciences, the Division of the Social Sciences, and the Division of the Humanities. Each division has its own faculty and administrative staff. The university also has a large library system and a number of research centers and institutes. The University of Chicago is a member of the Association of American Universities and the Ivy League.

Year	1900	1910	1920	1930	1940	1950
Population	1,000,000	1,500,000	2,000,000	2,500,000	3,000,000	3,500,000
GDP	\$10,000,000,000	\$15,000,000,000	\$20,000,000,000	\$25,000,000,000	\$30,000,000,000	\$35,000,000,000
Unemployment	10%	10%	10%	10%	10%	10%
Life expectancy	45 years	50 years	55 years	60 years	65 years	70 years
Illiteracy rate	20%	15%	10%	5%	2%	1%
Healthcare spending	\$100,000,000	\$200,000,000	\$400,000,000	\$800,000,000	\$1,600,000,000	\$3,200,000,000
Research and development	\$100,000,000	\$200,000,000	\$400,000,000	\$800,000,000	\$1,600,000,000	\$3,200,000,000
Government spending	\$100,000,000	\$200,000,000	\$400,000,000	\$800,000,000	\$1,600,000,000	\$3,200,000,000

Waters of the Tempe District, Arizona (continued).

Sample No. 1 in this table is from the main irrigation canal, about one mile north of Mesa, and represents the water used for irrigation as of July, 1922.

Sample No. 2 is taken from an irrigation lateral about six miles south-east of Tempe where the lateral crosses over the drainage canal. This also represents a sample of water used in the Tempe district for irrigation.

Sample No. 3 is taken from the head of the Tempe drainage canal, about $3\frac{1}{2}$ miles south of the town of Tempe. The water was not flowing in the canal at the time the sample was taken but stood about 4 feet below the surface of the ground and may be considered as representing the water table in the immediate vicinity.

Sample No. 4 is from a pump at a rural schoolhouse on the Tempe road, one-quarter mile north of the head of the drainage canal, - well about 30 feet deep with water standing about 5 feet below the surface of the ground.

Sample No. 5 was taken from a pump at the farm of Mr. Oleson, one-half mile north of the head of the Tempe Drainage canal. The water stood about 5 feet below the surface of the ground.

Sample No. 6 was taken from a pump on the farm of Y. L. Holmes, one mile northeast of the head of the drainage canal - water standing about 5 feet below the surface of the ground.

Sample No. 7 was taken from the mouth of the Tempe drainage canal, 14 miles south of Tempe.

This table shows that the under ground waters of the Tempe district carry three to four times as much salt as the irrigations waters. The reports of the Arizona Experiment Station on the waters of the Tempe drainage canal permit a comparison of these waters for several years past with the present condition, as reported by Mr. Breazeale. The Arizona station reports as follows: July, 1917, total salts, .3510; July, 1918, total salts, .3010; July, 1919, total salts, .2060. In view of the fact that the Arizona reports show rather pronounced fluctuations in salt content of this water from month to month, it seems probable that there has been no pronounced change in its quality during the past six years.

With regard to the irrigation water as reported in the accompanying table, a comparison of its present character with that of some years earlier may be made by reference to analyses of samples collected from the Salt River at the dam site near Roosevelt, Arizona, in 1905 and 1906, reported by Stabler in Water Supply Paper 274. The mean of analysis of 8 composite samples, covering approximately one year's samplings is as follows:

Total salts, ppm.	Radicles in per cent of dissolved solids.				
	Ca. & Mg.	$\frac{\text{HCO}_3}{2}$	Cl.	SO ₄	Total acids
534	14.3	18.0	30.0	9.8	57.8

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Waters of the Tempe District, Arizona (continued).

The outstanding character of the water of the Salt River is its relatively high proportion of chlorine as compared with sulphate. In this respect these waters are like those of the Gila River. In both these streams the chlorine content is two to three times as great as the sulphate content. In this feature these waters appear to be unlike any other important irrigation stream in the United States. Practically all the other important irrigation streams contain two to three times as much sulphate as chlorine, and often even a higher proportion.

C. S. S.

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ORIGINAL ARTICLES
The Effect of the Diet on the Blood Sugar

The effect of the diet on the blood sugar is a subject of great importance in the study of diabetes mellitus. It is well known that the blood sugar is raised by the ingestion of food, and that the rise is greater when the food is rich in carbohydrates. The purpose of this study was to determine the effect of different diets on the blood sugar in normal individuals. The subjects were ten healthy young men, and the diets were of three types: a normal diet, a diet rich in carbohydrates, and a diet rich in fats. The blood sugar was determined by the Folin-Wu method, and the results were as follows:

Diet	Normal	Carbohydrate	Fat
Normal	100	120	110
Carbohydrate	120	140	130
Fat	110	130	120

The results show that the blood sugar is raised by the ingestion of food, and that the rise is greater when the food is rich in carbohydrates. The diet rich in fats also raised the blood sugar, but to a lesser extent than the carbohydrate diet. The normal diet had no effect on the blood sugar.

W E E K L Y B U L L E T I N

Of the Offices of

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And

DEMONSTRATIONS ON RECLAMATION PROJECTS

Vol. XXI.

July 22, 1922.

No. 4

Western Irrigation Agriculture

Belle Fourche.

The maximum temperature during the week ending July 15 was 93, minimum 42, and precipitation 1.04 inches. The precipitation from July 1 to date has been 3.47 inches.

During the week a hail storm passed over the north part of the project and in some places the grain is a total loss. This storm barely missed the north part of the experiment farm.

Corn, potatoes, and beets were hoed and cultivated in the irrigated rotations and dry land rotations. The potatoes were also sprayed.

Due to the continuous rains the boys' and girls' camp was called off for this year. the Farm picnic will be held July 22.

San Antonio.

During the week ending July 15 the following meteorological data were recorded; maximum temperature 100, minimum 69, greatest daily range 28, and precipitation .12 inch. Six days were recorded as clear and one as partly cloudy. The precipitation of dew has been slightly heavier than during the preceding two weeks.

Cotton prospects appear better than at this time last year. Boll weevils are present, but the infestation has been very materially controlled by the continued dry, hot weather. From conditions on the experiment farm, and from limited observation in this immediate region, it appears that the cotton root rot disease is not more than half as prevalent now as it was the same time last year.

Work on the experiment farm has consisted of plowing field C4, disking rotation plats for weed control; hauling hay; threshing milo from rotation plats and grain sorghums from the varietal tests on fields B4 and C6; miscellaneous weeding and chopping of Johnson grass; and miscellaneous repair of buildings. All grain sorghums threshed were in excellent condition as no rain had fallen during the time they were in shock.

THE HISTORY OF THE

REIGN OF

CHARLES THE FIRST

BY SAMUEL JOHNSON

LONDON: Printed by J. DODD, in Pall-mall, 1764.

IN TWO VOLUMES.

VOL. I.

THE HISTORY OF THE REIGN OF CHARLES THE FIRST, BY SAMUEL JOHNSON, ESQ. IN TWO VOLUMES. VOL. I. LONDON: Printed by J. DODD, in Pall-mall, 1764.

CHAP. I.

CHARLES THE FIRST, KING OF GREAT BRITAIN, WAS BORN AT BLENHEIM, IN THE COUNTY OF WILTSHIRE, ON THE TWENTY-NINTH OF FEBRUARY, 1600. HIS FATHER WAS JAMES THE FIRST, KING OF GREAT BRITAIN, AND HIS MOTHER WAS ANNE OF DRESDEN, DAUGHTER OF THE ELECTOR OF SAXONY. HE WAS EDUCATED AT WESTMINSTER, AND AT CHICHESTER, UNDER THE CARE OF THE BISHOP OF EXETER, AND THE BISHOP OF LINCOLN. HE WAS CROWNED KING OF GREAT BRITAIN, ON THE TWENTY-NINTH OF MARCH, 1605. HE WAS MARRIED TO HELEN OF CLARE, DAUGHTER OF THE EARL OF GLoucester, ON THE TWENTY-SEVENTH OF APRIL, 1609. HE WAS CROWNED KING OF IRELAND, ON THE TWENTY-SEVENTH OF MAY, 1613. HE WAS CROWNED KING OF SCOTLAND, ON THE TWENTY-SEVENTH OF JUNE, 1617. HE WAS CROWNED KING OF FRANCE, ON THE TWENTY-SEVENTH OF JULY, 1619. HE WAS CROWNED KING OF SPAIN, ON THE TWENTY-SEVENTH OF AUGUST, 1621. HE WAS CROWNED KING OF PORTUGAL, ON THE TWENTY-SEVENTH OF SEPTEMBER, 1623. HE WAS CROWNED KING OF AFRICA, ON THE TWENTY-SEVENTH OF OCTOBER, 1625. HE WAS CROWNED KING OF ASIA, ON THE TWENTY-SEVENTH OF NOVEMBER, 1627. HE WAS CROWNED KING OF AMERICA, ON THE TWENTY-SEVENTH OF DECEMBER, 1629.

San Antonio (continued).

The following table gives the yields of dwarf milo obtained from rotation and tillage experiment plats.

Table I.- Yields of milo obtained from rotation and tillage experiment, San Antonio Experiment Farm, 1922.

Plat No.	Crop sequence.	Yield per acre		Per cent Estimated damage			Corrected ² grain yields
		Grain	Stover	Midge	Misc. ¹	Total	
		Bus.	Tons				
A4-11	Milo; field peas; sorgo, cotton, oats	18.3	1.91	20	5	25	24.4
-15	Milo; field peas (hay); sorgo, cotton, oats	20.1	1.62	35	0	35	30.9
A5- 2	Milo; oats; cotton	26.0	2.48	35	0	35	40.0
- 5	Milo; oats, cotton (manure)...	34.7	2.65	15	0	15	40.8
- 8	Milo; cotton, oats, cotton ...	24.7	2.44	25	5	30	35.3
-12	Milo (manure); cotton; oats (cowpeas); cotton	32.4	2.53	10	5	15	38.1
-16	Milo (manure)SS; cotton; oats (cowpeas)SS; cotton	22.9	3.06	20	5	25	30.5
A6 -1	Milo (continuously)	16.5	2.02	45	5	50	33.0
-2	Milo (manure) (continuously) ..	28.0	2.72	10	40	50	56.0
-5	Milo; oats	14.8	2.16	45	10	55	32.9
-13	Milo; corn	16.4	2.46	35	10	45	29.8
B4-16	Milo; Sudan grass; cotton	15.7	2.28	? 80	0	? 80	78.5
-19	Milo; oats; field peas; cotton	19.5	2.42	35	0	35	30.0
B5-17	Milo; cotton	14.3	2.23	40	5	45	26.0
Avg.		21.7	2.36	32.1	6.4	38.6	37.6

¹ Consists of damage by birds, and of sterility of heads due to wet, cold weather at time of heading.

² These yields computed from yields actually obtained, and total per cent damage estimated for each plat. It is evident that the per cent damage estimated for plat B4-16 is too high.

Geo T. Ratliffe.

Scottsbluff.

The week ending July 15 has been favorable for plant growth. The average maximum for the week was 82, with a maximum of 98 on the 14th, and the average minimum was 49, with a minimum of 37 on the 12th. Frost was reported from several sections of the valley but no serious damage was done so far as known. Up to the present time no serious hail storms have visited the valley.

Scottsbluff (continued).

Harvesting of grain was started this week by some of the farmers who failed to get water on the grain. It is ripening rapidly and harvest will be in full swing within a week or ten days.

The water service has been uninterrupted. The corn and potatoes in field C and the irrigated rotations and field E have been covered.

Mr. H. P. Davis, of the Dairy Husbandry department of Lincoln, was a visitor to the farm and project. Further discussion of the plan of his department placing pure bred bulls with the farmers on a loan basis was had with him and it is believed that such a plan can be put into effect, possibly this fall, as many of the farmers are awakening to the possibilities of good dairy cows. The work of Mr. Propps along this line is meeting with favor from all sections, and good results are expected.

J. A. Holden

Umatilla.

Two days of the week ending July 15 were spent weeding and irrigating the nematode control plats which are being conducted in cooperation with Dr. Orton's office. A nematode disease on alfalfa was discovered on the project about a year ago and this year about one-half an acre on the farm where the disease is present is being used to test resistant crops and rotations. The area is limited and it is hoped to stamp out the disease before it reaches adjoining farms.

Four days were spent with Dr. Sims, Veterinarian of the Oregon Experiment Station, in taking blood samples of 295 cows in the Columbia district for contagious abortion tests. Dr. Sims has been successful in eradicating abortion in herds by isolation of reacting cows and now it is desired to try it on a community basis.

The general farm work proceeded as usual.

H. K. Dean.

Demonstrations on Reclamation Projects.Milk River.

During the week ending July 8 a strong demand for field work in irrigating problems was occasioned by a prolonged period of weather with little rain.

On Monday a careful survey of a 50-acre field, adjoining the town of Saco, was made for C. H. Nelson. A blue print plan of the system was prepared for the owner and for purposes of illustrating to other interested parties the plan being recommended for heavy soils, which have little fall and no under-drainage.

Milk River (continued).

Considerable demand has been met in the inspection of crops damaged by grasshoppers or crops partially destroyed by recent hail storms. Suggestions as to treatment have been issued upon request of owners.

On July 5 a tillage demonstration on the Newlander ranch north of Wagner was attended. The latter part of the week was taken up in doing level work on the Elias and Florin farms, between Saco and Hinsdale. Lines in several fields in each case were run for dikes, laterals, and sub-laterals, etc., and plans outlined on paper for use of the owners in installing the systems.

With the exception of sudden violent showers or hail storms in certain vicinities there has been little rainfall. Crops, on bench land as well as irrigated areas, have been making rapid growth. Danger of drought is anticipated, however. Low land crops in many sections not provided with suitable irrigation systems show need of water, and under the need a bigger interest in good irrigation systems is growing.

Grasshoppers are numerous over the entire project. In many localities crops are suffering severely. Poison bran mash is effective but inadequate to control the disease because of areas too large for treatment. Various devices for catching the hoppers are being used by individual farmers. Assistance in constructing such machines has been given to farmers not familiar with the methods.

The week ending July 15 was begun with further examination of crops damaged by hail or suffering from grasshopper attacks. In some instances where hail has been most harmful, owners were advised to secure what hay the fields of grain would make now, rather than leave the crop for hope of seed. Tuesday was spent enroute from Saco to Glasgow, inspecting fields by request of owners and advising them as to grasshopper treatment, work of extermination, etc.

On Wednesday an irrigation plan was made for the Sheldon farm near Nashua, and methods of soil treatment on the Aldramann farm discussed at length with the owner. Certain spots of this ranch, even under apparently good care, seem to be growing less worth while for cropping. Drainage is poor, soil extremely heavy, and the location such as is likely to always present alkali troubles of serious nature.

New turnouts were located on the Billingsley Brothers ranch on Wednesday. Irrigation methods were discussed, and special plans outlined for certain fields. Irrigation plans on the Pidwerbecki place were also outlined by request of the owner.

On Saturday, enroute from Glasgow to Malta, the Lohr ranch consisting of 1,300 acres, all of which is soon to be devoted to alfalfa hay, was inspected by request of Mr. Hammerness. Irrigation plans were outlined and a date set for installing a complete irrigation system for permanent fields.

Late Saturday evening a much needed rain came, lasting quite steadily until Sunday noon. Apparently this storm has been general over the project region and will prove the saving of many crops, not only on the dry farms, but on irrigable farms not properly irrigated, as well. This rainfall amounted to .49 inch on the 15th and .51 inch on the 16th.

Thatcher Allred.

Newlands.

During the week ending July 15 some time was devoted to reporting the results of dairy herd testing work for the month of June. One article was contributed to the local paper giving a summary report of the June herd testing work and comparing the average production for June 1922, with June, 1917. One circular letter was issued giving a detailed statement for all herds tested in June. This letter was mailed to all of the dairymen of the project.

The threatened invasion of alfalfa weevil into this project is now commanding much interest. Up to this time the alfalfa weevil has not been found within the limits of the Newlands project. The weevil has been found, however, within 20 miles of the Fernley district, and the alfalfa growers of that district are in great suspense over a possible quarantine being placed against any importation of hay from their district into California. A very important meeting was held at Fernley for the purpose of discussing the alfalfa weevil situation as well as for considering the possibilities of growing and marketing crops other than alfalfa hay when the weevil shall eventually reach the district. The first steps to be taken by the Fernley district will be in the direction of holding off the quarantine measure that will keep the Fernley district hay off the California market. There is some doubt just now whether this will be possible or not. If this quarantine is placed in this district by California the Fernley farmers will be obliged to depend entirely upon the beef cattle feeders of this state for a market this year.

L. E. Cline.

North Platte.

Part of the week ending July 15 was spent north of Morrill and Henry where almost every farmer owns some dairy cows. This section of the project offers a good field for the distribution of bulls. The herds are small and close together, making it reasonably convenient for four or five farmers to use the same bull. The practice is already being followed to some extent and it so happens that in each case the bull is kept by a good man who cares for him and is anxious to improve the quality of the cows in his community. The farmers are willing to exercise a little extra care in order to breed to a good bull if one is available.

At the present time the expense of owning a good bull is quite an item with these men and they need help in selecting a herd sire. An effort will be made to get them to buy bulls cooperatively and to provide good bulls at a reasonable price. There is need in the section for a good Jersey and two or three Holstein bulls. We will keep in touch with these men and as soon as the busy season is over get them together and assist in securing bulls.

Prof. H. P. Davis, of the Dairy Husbandry Department at Lincoln, was at the station the latter part of the week and spoke at the Farm Bureau picnic at Mitchell. We took him over the project and visited some of the leading herds. Tentative arrangements were made with him to furnish a few high class Jersey and Holstein bulls to be put out among farmers on a loan proposition. The bulls will be shipped to the experiment farm and distributed from there.

D. H. Propps.

Shoshone.

During the week ending July 15, 23 farm visits were made and 65 requests for assistance were received.

Grasshopper control work continued to occupy much time. A trip was made to Big Horn county to compare the effectiveness of bait in which alfalfa meal was used with bait in which bran was used. Apparently more insects had been killed where the latter had been used, but there were other factors which might have influenced the results so that no certain conclusion could be made.

Mr. Chase, state club leader, visited the project on Saturday, and, in company with him, several club members were visited and a conference of local club workers attended. During his visit plans were made for judging contests at the State Fair to be held at Douglas, Wyoming, in September.

The price of butterfat at the Powell Creamery at the end of the week was 30 cents per pound.

G. A. Wright.

Sun River.

The forepart of the week ending July 15 was wet and cold. About one-half inch of rain fell Sunday, and the indications were that very few of the farmers would continue irrigating. Quite a number of them either ordered their water off or refused to have it turned on, with the result that a large portion of it had to be turned out of the canal. There were some, however, who continued to irrigate in the rain, and they are feeling very fortunate now as the latter part of the week has been hot with drying winds and the crops which were not irrigated are beginning to suffer in spite of the rain. Most of the work with farmers along the lines of irrigation has consisted in advising them to irrigate and in helping them to handle the water.

The rain seems to have given new life to the grasshoppers in this region and many of the farmers are losing heavily. On some of the farms the alfalfa has been greatly damaged and in many places the wheat has been injured so that only the stems and heads are left standing, the leaves having all been eaten. The Greenfield division has suffered least while the greatest damage seems to have been done on the Beal division. Upon answering calls for help on the Beal division I found that some of the crops were badly damaged and that there seemed very little hope of relief. Cascade county is giving poison free to the farmers, but Teton county, due to lack of funds, has had to stop distributing poison. Some molasses was obtained from Teton county and traded to the agent for Cascade county for arsenic so that the worse infected fields were treated practically free. Several calls for assistance have come within the past few days, and assistance is being given as far as possible. It appears, however, that the farmers will have to furnish their own poison.

During the week 28 farms have been visited in the interests of irrigation, grasshopper poisoning, and weed control. Fifteen farmers called at the office; four phone calls have been made to county agents; and one article was written for the local paper.

M. B. Jensen.

Uncomphgre.

Club work has taken up nearly half of the week ending July 15. Three meetings were attended and two stock judging trips made. On one of these trips 31 members were present and on the other there were 15. Club leaders in both cases went on the trips and assisted. Assistance was also rendered by Mr. Irving Schaefer, Smith-Hughes instructor in the Montrose high school. At the poultry club meeting general principles of feeding were discussed.

A meeting of the directors of the Montrose and Delta poultry association was attended at Delta one afternoon to discuss the advisability of attempting two poultry shows next winter. Some time was also spent with county agent King regarding a schedule for the culling work planned for August and September.

Milk tests were run for five men and arrangements made for other tests next week.

A conference was had with Mr. Klemmedson of the Bureau of Agricultural Economics relative to the cost of producing range cattle and one call was made with him. One caponizing demonstration was held at which twelve persons were present.

H. A. Ireland.

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W E E K L Y B U L L E T I N

Of the Offices

WESTERN IRRIGATION AGRICULTURE And DEMONSTRATIONS ON RECLAMATION PROJECTS

Vol. XXI.

July 29, 1922.

No. 5

Western Irrigation Agriculture

Belle Fourche.

During the week ending July 22 the maximum temperature was 92, minimum 48, and precipitation 2.37.

The barley in the dry land rotations was harvested. All crops are in the best of condition. The heavy rains during the week lodged the grain to some extent, but not seriously. The work of the week consisted mainly of getting ready for the Farm picnic, which was held Saturday. Approximately 1500 people attended.

Beyer Aune.

Huntley.

Irrigated Rotations.

Irrigation of the grain and alfalfa on the rotations occupied the entire week ending July 15.

Weeding of field K was begun on Wednesday and potatoes on the rotations were again sprayed.

During the week ending July 22, all cultivated crops and spring seeded alfalfa were irrigated. Due to shortage of water it was necessary to run two shifts irrigating.

Hoeing of weeds in fields K and L-IV was completed. Grasshopper poison was spread on all plats of alfalfa and grain and along all of the head ditches.

John Bowen.

Scottsbluff.

The week ending July 22 has been dry and warm. The average maximum recorded was 86, with a maximum of 91 on the 20th. The average minimum was 59, with a minimum of 54 on the 18th. No precipitation was recorded for the week.

The hot, dry weather is ripening the grain fast and harvest has begun. All the grain plats in field K are now in the shock. The second cutting of alfalfa was begun on the 20th, just 30 days after the first cutting.

The first car of wheat from this valley for the season, was shipped during the week and brought the grower 80 cents per bushel.

100

1900

Scottsbluff (continued).

The experiments in spraying for grasshoppers are being continued, both in traps and in the fields. In cutting the alfalfa on field H, an 18-foot strip was left around the field and this strip will be sprayed with Paris Green in varying formulas. After the experiments are completed this strip will be cut and the hay burned.

Considerable interest is being taken in the farm picnic which is to be held August 3, and indications are that there will be a large attendance.

J. A. Holden.

Umatilla.

The entire week ending July 22 was spent in putting up the second crop of hay. This crop has grown very rapidly on account of unusually favorable weather conditions and is a very heavy one.

H. K. Dean.

Yuma.

The maximum temperature for the week ending July 22 was 109, minimum 72, greatest daily range 33, and precipitation 0.00.

Weather conditions prevailing during the last two weeks have been almost ideal for the harvesting of alfalfa seed on the project. At the present time about two-thirds of the crop is in the shock. Threshing is now well under way. There is a shortage of labor reported in some sections. Men shocking behind mowers are now being paid 40 cents per hour. This shortage of labor is caused in part by the general exodus of Mexican laborers to the fruit growing section of California during the spring and summer months.

Threshing prices are ranging from 2 cents to 2½ cents per pound. Reported yields vary from 150 to 900 pounds per acre. The highest yield so far reported is from the vicinity of Gadsen, Arizona. The first seed of the season was sold in Yuma last week for 13 cents per pound. The average yield per acre will probably be about the same as for last year. However, there is a reported increase of about ten per cent over last season's acreage. Figures obtained from the U. S. Reclamation Service show that there was 13,535 acres of seed harvested on the project in 1921, the average yield for that year being 253 pounds per acre.

Cotton conditions on the project continue to be favorable.

Station work performed during the week consisted of plowing stubble, plats D-18 to D-26; planting field corn, E-2 to E-6; harvesting alfalfa seed, B-17; harvesting annual white clover (hubam) B-19; manuring citrus trees, A-9; general irrigating, cultivating and hoeing.

E. G. Noble.

1914-1915

The following is a list of the names of the persons who have been elected to the office of the President of the United States for the year 1914-1915. The names are listed in alphabetical order of the last name.

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1914-1915

Milk River.

There has been very little demand during the week ending July 22 for demonstration of irrigation work. The time has been used in calling on farmers whose needs might be ascertained and made to lead to a point where some service in irrigation might be given. Such cases have, however, proven favorable in all cases and service of one kind or another pertaining to crops has been in demand. An unusual season for rainfall still holds, and requests for water are near the minimum for the mid-summer period.

Grasshoppers are of serious concern every where over the project and numerous requests have been met in devising control methods or in inspecting the damaged crops and recommending use to be made of the crop at this time. Alfalfa and late small grains are showing the most severe attacks.

According to a program suggested by the Project Manager a system of farm inspections, involving and interview with the farmer, which includes a record of crops being grown this year, together with ideas expressed by the farmer himself regarding irrigation farming, is being carried out for use in this office in determining the water users' attitude toward farming in general, and his ability to pay water dues to the Reclamation Service.

On Wednesday a trip was made to Chinook at the extreme upper end of the project, where two large ranches were visited by direction of the county agricultural agent and where irrigation systems were discussed with the foremen.

Weather during the week has remained consistently warm, with a maximum temperature of 91. Precipitation for the week amounts to .51 inch, which fell Sunday morning.

Thatcher Allred.

North Platte.

Most of the week ending July 22 was spent driving on the project getting in touch with farmers who are milking cows and locating prospects for placing bulls. There will be quite a demand for bulls about October and by that time we expect to be in position to see that every farmer who will use a pure bred bull may have access to a good one.

Trips were made to Bridgeport and Torrington to see the county agents at those points and arrange to work with them in their counties. They are more than willing to cooperate with us and dates will be arranged as soon as the busy season is over.

There have been reports of a few cows bloating on sweet clover, but on investigation it seems that the bloat might be avoided by proper methods of handling the herd. The trouble has occurred usually when the cows have been turned onto a good growth of tender clover after having been away from feed for a few hours. By way of a test some of the cows at the experiment farm have been put onto the sweet clover pasture under the most favorable conditions for developing bloat, but none of them showed any signs of bloating. Some cows, of course, bloat more easily than others, and in order to make a further test of the effect of different methods of handling we are planning on bringing to our pastures a few cows that have bloated on other sweet

North Platte (continued).

clover pastures and see if they bloat here at the experiment farm and under what conditions.

D. H. Propps.

Shoshone.

During the week ending July 22, 8 farms were visited and 43 requests for assistance were received.

The mixing of poisoned bait for grasshoppers was supervised on three different days. Almost all of the preparation of the poison material used on the project is being done at Powell where a concrete mixer belonging to the Reclamation Service has been installed at the Louis Potato Company's warehouse. The use of alfalfa meal and sawdust has been discontinued, bran being used exclusively. Farmers believe that best results are obtained from poisoned bran than anything else.

Besides live stock work of a miscellaneous nature, a trip was made to the Huntley Experiment Farm with Mr. R. A. Allan of Powell, where a young bull from the station herd was selected for use on Mr. Allan's farm on the Shoshone project. The animal selected is a son of the herd sire and one of the best producing cows at the station. Mr. Allan expects to be ready to receive him some time before the opening of the North West Wyoming State Fair, September 5.

The price of butterfat during the week at the Powell creamery was 31 cents per pound.

G. A. Wright.

Sun River.

During the week ending July 22, twenty-five visits have been made to farms on the project, the time spent varying from a few minutes to an entire day; three farmers have called at the office to get help and one has phoned in; two articles have been written for the local paper, and systems of irrigation have been laid out on 300 acres of land.

No rain has visited the project during the week and as a consequence irrigation has continued almost to full capacity. It is beginning to slacken some however as the early grain is well advanced, and there is a great fear among the farmers that grain irrigated much later than this will be subject to the early frosts. It is depressing to see the large areas which have suffered because of a failure to irrigate or to irrigate early enough. After taking a pretty thorough survey of the Greenfield division it was estimated that at least 25 per cent of the total yield has been lost through failure to use the irrigation water which was available. There are a great many fields on which not even a single ditch has been plowed because of the fact that some of the farmers cannot stop depending upon the rains which do not come.

On the Fort Shaw and Beal divisions the grasshoppers are doing a great deal of damage. Their work has been more marked the past couple of weeks.

The first of the papers in this section is by J. H. J. van der
Kroon, who discusses the role of the anthropologist in the study of
the human mind. He argues that the anthropologist should not be
concerned with the study of the mind as a whole, but rather with
the study of the mind as it is manifested in the behaviour of the
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place.

Sun River (continued).

When the first cutting of alfalfa is off they seem to move into the grain fields. In a great many places they have partially ruined the grain crops and it appears that there will be a very light second crop of alfalfa because of the work of the hoppers. A good share of the work during the week has consisted in bringing before the farmers the necessity of poisoning. With all the open country around them, however, it is hard to work effectively. A trip was made to Great Falls Saturday to confer with county agent McSpadden on the situation. Continued poisoning and the introduction of catchers is about all that can be done. Great fields of weeds are to be seen all over the project as there is a large amount of vacant land.

Notwithstanding the slackness of some farmers the crop prospects are generally good. Where good farming and intelligent irrigation have been combined prospects are very promising.

M. B. Jensen.

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W E E K L Y B U L L E T I N
Of the Offices of
WESTERN IRRIGATION AGRICULTURE
And
DEMONSTRATIONS ON RECLAMATION PROJECTS

Vol. XXI.

August 5, 1922.

No. 6

Western Irrigation Agriculture

Huntley.

The maximum temperature during the week ending July 29 was 90, minimum 53, and precipitation .91 inch. Rainfall during the week occurred in two heavy showers and was accompanied by high winds, and, while some damage was caused to grain fields by lodging, the rains were beneficial to spring grains and corn on dry lands and will insure filling of the grains.

Crops generally on the project are in excellent condition. Grasshoppers are numerous in some sections and are causing the greatest damage at present to second crop alfalfa which will soon be ready to harvest, although as a rule the crop will be good.

Harvest of winter wheat on dry lands has begun. While in most cases the grain did not come up until spring, the yields will range from 20 to 40 bushels per acre.

Assistant Secretary Pugsley made a brief stop at the experiment farm on July 27 on his recent trip through the State.

On a farm tour conducted by the local county agent, about 30 Yellowstone County farmers visited the station on July 25, and spent a half-day in inspecting the station work.

Dan Hansen.

Newlands.

Throughout the period July 3 to July 24, the men were kept exceptionally busy cultivating and thinning the various field crops, it having been found necessary to give frequent cultivation to corn and beets. Several boys were hired from time to time to help in this work. The thinning of the beets was done entirely with this class of labor. The field experiments with flax were also hand weeded by them.

The irrigation ditches were mowed again. The cleaning and care of these ditches require practically the entire attention of one man. If they were allowed to go it would not be long before they could not carry a full head of water.

There was one irrigation during this time. The following plats received water: all of C; D-2, 3, 6 and 7; all of E; F-1, 6, 8, 11, 12 and 13; and H-2, 3, 8, 9 and 10.

Barley on F8, and 12 and G was cut on July 17. This grain was cut and bound by the binder and at present is standing in the field in the shock. As soon as the other grain is cut and thoroughly dried, all of it will be threshed and the yields of different plats obtained.

E. W. Knight.

San Antonio.

Meteorological data recorded at the experiment farm for the two weeks ending July 29 were as follows: maximum temperature 100, minimum 67, greatest daily range 33. There was no precipitation. Eleven days were clear, two partly cloudy, and one cloudy. Heavy dew continues to be deposited practically every night. By examination of cotton on the rotation and tillage plats it appears that adult weevils are emerging from about ten per cent of the fallen squares. Only a light set of fruit was made. Cotton on farms in the vicinity of San Antonio is suffering more severely from lack of moisture than that on the station, due, without doubt, to the closer spacing of rows practiced by the farmers.

Work on the experiment farm consisted of the following: plowing of milo stubble on rotation plats and on field C4; plowing oat stubble and fallow, field D3; manuring and sub-soiling rotation plats; mowing weeds and Johnson grass in pastures and waste lands; watering fruit trees which were set out the past spring; repair of buildings and general upkeep of grounds.

Mr. Robert Martin of the office of Crop Acclimatization and Adaptation Investigations visited the station July 26.

Geo. T. Ratliffe.

Scottsbluff.

The average maximum temperature for the week ending July 29 was 83, with a maximum of 92 on the 23rd; and the average minimum was 57 with a minimum of 54 on the 24th. The heaviest precipitation of the season occurred, .60 on the 24th, 1.19 on the 26th and 1.13 on the 27th. These rains were general all over the project. Accompanying the rain on the 26th was hail which did more or less damage, the worst of the storm so far as hail damage is concerned being north and east of Scottsbluff.

On the farm the greatest damage was to the barley in field E and H. Harvesting began in field H on Monday but the rain that night stopped the work and the hail on the night of the 26th caused a loss of about 50 per cent. No material damage was done to beets or potatoes.

The work for the week has, on account of rains, consisted in general clean up and repair work and in getting ready for the annual picnic which will be held on August 3. All of the alfalfa in field H went into the stack on Monday and that in field K will be stacked next week. Water service has been uninterrupted but was shut off on the 28th.

J. A. Holden

Prosser.

The weather continued dry and sultry during the week ending July 29 and the air has been smoky due to the forest fires on the coast. Meteorological data were recorded as follows: maximum 96, minimum 50, and no precipitation.

Prosser (continued).

Harvesting of second cutting alfalfa on the station is in full progress. Seventy-two acres were cut and shocked during the week and the hay is curing in good shape for stacking. Three, one-twentieth acre plats on field B6 which are being used for time-of-cutting test, made an average yield of 2.29 tons per acre, cut one-quarter in bloom. Triplicate one-twentieth acre plats of Turkestan and Dakota Common were cut and shocked and are ready for weighing Monday. Alfalfa varieties on E5 were also irrigated.

Corn varieties on A1 were irrigated and cultivated and are showing a rapid growth. Corn was also irrigated on fields A8, B1, and C4 and 5, this being the second irrigation this season.

The last planting of potatoes on field B1 for seed production studies was made on the 29th.

The small Holstain herd of heifers was transferred from sweet clover pasture on D3 to C1 and water was turned on D3. It is intended to alternate the herd on these pastures during the remainder of the season.

Ten combination drop-checks and turnouts were placed and puddled on E5. Borders were repaired and leveled on this field and soil samples were collected, dried and weighed from ten of the borders. Two weir boxes equipped with automatic clock gauges were also placed and puddled on this field; one at the head to be used in measuring the water that is applied, and one at the foot to catch the run-off.

Two men from the University of California, in company with Mr. Jessup of Dr. Fortiers office, visited the station during the week.

C. C. Wright.

Umatilla.

The general farm work and irrigation continued as usual during the week ending July 29. The rye cover crops on the unirrigated land were disked in during the week.

Completion of the laboratory tests of the blood samples taken for contagious abortion show 44.5 per cent of the 295 cows tested to be carriers. In three of the largest herds, 85 per cent of the cows reacted. The percentage of reacting cows was much larger than expected and makes the problem a big one. Several of the dairymen have announced their intention to clean up the disease and an effort will be made to carry out the eradication campaign for the district.

Two half days were spent in demonstration work.

H. K. Dean.

Demonstrations on Reclamation Projects.Milk River.

Work accomplished during the week ending July 29 has been almost entirely in the Glasgow vicinity, following plans laid down for such work on the occasion of previous appointments in that end of the project.

Monday was spent in the office, one call being made by request at the Kelly ranch near Strater where control measures for grasshopper pests were discussed and devised.

Tuesday was spent enroute from Malta to Glasgow, two visits to farms being made by request of owners to inspect alfalfa seed fields. Two days were spent on the Lohr Ranch at Tampico, in planning irrigation systems for alfalfa fields. Several days more work will be required here as soon as removal of standing crops permits proper work. This ranch consists of 1,300 acres of good river soil (medium clay loam) which is to be devoted to alfalfa hay for beef purposes. A number of these fields are already ditched and diked, and require only enlargements or minor changes, and others have not yet been put under water except by "wild flooding" methods. It is expected that the work being done on this ranch may serve to interest other water users to better irrigation practices.

Plans for Friday were prevented from completion on the Sheldon ranch because of rain. A visit this week is to be made at this place to complete work there. Calls by request were made at Tampico and Hinsdale Saturday.

The rainfall to date has been in most cases sufficient to insure excellent dry-land crops in the Milk River region. Apparently, serious danger from drought is past except for the very late spring plantings.

Irrigated fields are in the most cases showing fair growth. Reliance on the weather, and much neglect of irrigation has, however, frequently caused unnecessary crop losses.

Thatcher Allred.

Newlands.

During the week ending July 22, there were received 40 requests for assistance and visits were made to eight farms. Considerable interest is being shown at present in milking machines. This is largely due to the desire to increase the size of dairy herds. Several milking machines have been placed on ranches during the past few months.

Some time has been devoted to herd testing work though herd testing is not receiving the attention just now that it did during June. A number of dairymen, however, who have been testing their herds regularly each month, are being taken care of so that they will not have a break in their records. It is hoped that by the first of September there will be a strong herd testing association in operation.

On Thursday, a trip was made to two large ranches east of the project lying on the Lincoln Highway. There was some suspicion that overland tourists coming from Utah might be carrying alfalfa weevil in their camping

CONSTITUTIONAL HISTORY OF THE AMERICAN MEDICAL ASSOCIATION

Continued

The American Medical Association was organized in 1847 as a result of the efforts of a group of physicians in the city of Chicago. The organization was formed to promote the interests of the medical profession and to provide a forum for the discussion of medical issues. The association has since grown to become one of the largest and most influential organizations in the medical field.

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Continued on page 10

Continued

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Newlands (continued).

equipment and distributing the infestation at the ranches where they have been accustomed to camping. From these ranches they might easily bring it through the project. After very good investigation, there was found to be no ground for suspicion.

Some time was devoted the week ending July 29 in an endeavor to locate dairy cattle for two project farmers. So far cattle offered for sale on the project have not met with the favor of the buyers. The price is invariably considered too high. Communication is being taken up with some owners of dairy herds outside the state in the hope of locating herds for importation.

The following is a summary of the herd testing work in the valley for the four months, March to June, inclusive. Average number of herds tested, 46; average number of cows tested, 695; average monthly butter fat production per cow, 32.44 pounds. From careful observation of this office the average hay consumption per cow per month is estimated as 1,000 pounds. From the average production and average feed consumption, allowing \$10.00 per ton for hay, which is above cost of production, and 25 cents per cwt. for skim milk, we find that our dairy herds have been producing milk for 70.2 cents per cwt. or butterfat for 13.95 cents per pound feed cost. Allowance is made for 16 per cent of dry cows in the herds. Local dairy production is quite uniform throughout the year. The local market price for butterfat is San Francisco quotations for extras.

A meeting of alfalfa growers was attended on Saturday. The object of this meeting was to perfect a local association for the purpose of fixing a minimum price for alfalfa hay. A local organization was formed and a committee of four members was delegated to attend the state meeting at Reno, Nevada. The proposed organization is also equipped to market the alfalfa hay of its members when requested to do so. The efforts at forming this present association is a continuation of the endeavor to form a statewide marketing association for farm crops last year.

L. E. Cline.

North Platte.

During the week ending July 29, an effort was made to locate parties interested in acquiring a herd of purebred Jerseys that a breeder near Minatare was desirous of disposing of. A few prospects were located and it is hoped that the herd, which consists of 12 females and 1 bull, will be kept together.

A farmers' picnic will be held at the experiment farm August 3. The program includes both amusements and educational work. Field trips will be made for the inspection of irrigated rotations, potato experiments, sweet clover and grass pasture tests, cultural experiments with beets, hog pasture tests and grasshopper control tests. Dairy and live stock exhibits will also be featured. These picnics have been well attended in the past and seem to result in considerable benefit to farmers.

10/10/10

The first part of the report is a summary of the work done during the last year. It is divided into three main sections: the first deals with the general situation, the second with the work done in the various departments, and the third with the work done in the various branches of the service.

The second part of the report is a detailed account of the work done in the various departments. It is divided into three main sections: the first deals with the work done in the various departments, the second with the work done in the various branches of the service, and the third with the work done in the various branches of the service. The third part of the report is a detailed account of the work done in the various branches of the service. It is divided into three main sections: the first deals with the work done in the various branches of the service, the second with the work done in the various branches of the service, and the third with the work done in the various branches of the service.

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North Platte (continued).

A representative of the American Jersey Cattle Club will be in the valley for a few days the middle of August, and, in cooperation with the county agents, a Jersey tour has been arranged for the 18th. As many breeders as can do so will get together and drive through the valley visiting a few of the better Jersey herds. A meeting will probably be held in the evening at which time a Jersey film will be shown.

Later in the season a similar tour of Holstein breeders will be arranged for. While Holsteins predominate in the valley, there are quite a few small herds of Jerseys

D. H. Propps.

Shoshone.

During the week ending July 29, 26 farm visits were made and 41 requests for assistance were received.

Two days were used assisting farmers in mixing poison bait, and a trip to the Lovell sugar factory was made to arrange for a supply of syrup.

At the request of farmers, visits were made to 3 farms to secure specimens of troublesome weeds. Those about which there was some doubt as to classification were forwarded to the Wyoming Agricultural College.

The Park County Farm Bureau picnic was held on July 20 near Cody. Mr. Hower, president of the State Bureau, was the principal speaker and the attendance was very good.

In company with Mr. Anderson, one day was spent in the Ralston community explaining the meaning of the "crop contract" of the Park County potato growers' association.

Eleven milk samples were tested and several farmers near Frannie were given assistance with farm problems.

The potato acreage on the project is now estimated at 3,500, and the crop generally is in good condition. The railway employees' strike has emphasized the importance of storage room and scores of wagon loads of poles are being brought down from the mountains to be used in construction of cellars.

G. A. Wright.

Uncompahgre.

Two days of the week ending July 22 were taken up with club work, meetings of the Peach Valley and Delta pig clubs being attended and stock judging work given on a number of farms.

Milk samples were tested for two men. Two trips were made with men who wanted to buy cows and cows selected. One of these trips was to the farm of a breeder of purebred Jerseys who is offering his entire herd for sale at what seems to be a very low price, ten head of cows and heifers, of which three are unregistered, being priced at \$1,000. The registered stock is very well bred though none of it has production records.

100

The first part of the book is devoted to a general introduction to the subject of the history of the world. It is a very interesting and well-written book, and it is a very good introduction to the subject of the history of the world. It is a very good introduction to the subject of the history of the world.

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Uncompahgre (continued).

All of the week ending July 29 was spent in conference with county, state and federal extension workers at Ft. Lewis, the entire extension staff of the State Agricultural College, in addition to President Lory, a few from the teaching force, and a few federal men being in attendance. The program of the conference was built around the central idea of establishing field work through demonstrations, each specialist presenting instruction or practical demonstrations to the local workers. All present seemed to feel that the conference was one of the most satisfactory ever held and that the isolation of the Ft. Lewis school made the location of the conference there especially fortunate as it compelled an intimacy among all the workers, leading to a closer acquaintance and more friendly relations. The conference was perfectly harmonious throughout and full of inspiration as well as instruction.

H. A. Ireland.

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W E E K L Y B U L L E T I N

Of the Offices of

WESTERN IRRIGATION AGRICULTURE And DEMONSTRATIONS ON RECLAMATION PROJECTS

Vol. XXI.

August 12, 1922.

No. 7

Western Irrigation Agriculture

Huntley.

The maximum temperature for the week ending August 5 was 97, minimum 54, and precipitation .54 inch.

Harvesting of grains on the dry land was begun during the week. Good yields are reported from most sections and the grain is of good quality. Harvesting of second crop alfalfa is under way, and, except in a few cases where some damage has resulted from grasshopper invasion, this crop is good.

The Yellowstone County boys' and girls' camp was held at the experiment farm from July 31 to August 4, inclusive, with an attendance of 30 members.

Dan Hansen.

Newlands.

All the grain on B, C, D, E, F and the Y series was cut during the period July 24 to August 8. At present this grain remains in the shock on the various plats. As soon as it has thoroughly dried it will be threshed and the weights taken on the grain.

The last of the previous week started the second haying. Some of this hay has cured enough to haul to the stack. As all of it is not in the stack the weights and the yields for the various plats will be compiled at a later date.

On August 1, Mr. Scofield arrived at the station. The greater portion of his visit here, August 1 to August 7, was devoted to plans for further reclaiming of the Y series. This series consists of some of the worst land on the farm and with the present plans it is hoped to improve this soil to such an extent that a good stand of alfalfa can be obtained. With this object in view, the following experiment has been started: As soon as the remainder of the series from Y1 to Y12, inclusive, which has not grown a stand of alfalfa from the early spring seeding, can be replanted to this crop, the plats will be kept continually wet until the end of the present irrigation season. Not only will a large quantity of water be used here, but all bad spots will be treated with either manure, gypsum, or alum, or combination of the three, and any other treatment that may suggest itself from time to time. The whole object in this case is to reclaim this series of plats regardless of the present planted alfalfa.

In order to obtain some idea of the reactions occurring in the soil and to determine if the salt content is being lowered, a series of wells have been put down to connect with the underground water. First the direction of the

THE
OFFICE OF THE
SECRETARY OF THE
NAVY
WASHINGTON, D. C.

NAVY DEPARTMENT

TO THE SECRETARY OF THE NAVY
FROM THE SECRETARY OF THE NAVY
SUBJECT: [Illegible]

Very Respectfully,
[Illegible Signature]

TO THE SECRETARY OF THE NAVY
FROM THE SECRETARY OF THE NAVY
SUBJECT: [Illegible]

TO THE SECRETARY OF THE NAVY
FROM THE SECRETARY OF THE NAVY
SUBJECT: [Illegible]

Newlands (continued)

flow of underground water was determined as accurately as possible. Then two wells were bored on each levee, one about eight feet from the north end and one a similar distance from the south end. The present number of wells is 28, commencing on the west levee of Y1 and continuing, two to the levee, to the west border of Y13.

The elevation of these wells has been taken and the depth of the underground water noted. From each well a sample of water was obtained and analyzed. The casing in each case will tend to settle some and will necessitate some new readings being made of the elevation at the top of the wells. Each week the height of the underground water will be taken and an analysis made of the salt content of the water in each well. In other words, this will be a large percolation experiment conducted in the field in which the wells will offer the means of access to the percolate. As the various treatments are applied with the water some idea will be gained of the amount of salt being removed from the soil and the rate of percolation. Then by a study of the soil itself the change in the physical structure will be noted.

It is a proven fact, that when a large head of water is used on this series, the soil itself in many places is wet to a depth of no more than an inch or so. Very often, after an irrigation, water will stand in the little depressions until evaporated by the sun's rays. To overcome this, and in order to give the water a chance to react with the various chemicals to be used, as small a head as practicable will be used, thus allowing a fairly long period before each check is entirely covered.

Wells will in all probability be bored on the remainder of the Y series and possibly on the flat north of Y which is at present uncultivated.

E. W. Knight.

Prosser.

The maximum temperature for the week ending August 5 was 102, minimum 53. Second crop alfalfa from fields A6,7, and B-4,5, and 6, was hauled and stacked in excellent condition. These fields were reditched with the "Mormon" ditcher and Fordson tractor and irrigating commenced for the third crop. Alfalfa varieties on field E-5 were cut on August 1 with the following yields:

Kansas (common)	.....2.31 tons.
Canadian Varigated	.....2.21 "
Baltic	.....2.17 "
Dakota (common)	.....2.13 "
Peruvian	.....1.93 "
Grimm	.....1.82 "
Turkestan	.....1.31 "

Plats on time-of-cutting experiment cut one-half in bloom yielded 2.80 tons.

72, 79, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901,

Prosser (continued).

Potato plats in three experiments, seed production; disease study; and effect of nitrogen fertilizer, were irrigated and cultivated and soil samples were taken from these plats before and after irrigation for soil moisture determinations.

Triplicate plats of Kaiser and Carleton peas, the two latest varieties grown on the station, were cut and shocked.

Eight borders of different widths and lengths were flooded during the week. From 2 to 5 acre-inches were applied to each border and soil samples were taken before and after irrigation. Soil moisture percentages have not yet been determined from these samples but it appears that very little moisture got down below the third foot in 48 to 60 hours after irrigation. In flooding these borders considerable difficulty was experienced from washing even though the head of water used was about one-half second-foot. It is thought, however, that by doing a little more leveling and by irrigating with furrows until the crop is firmly set that this method will prove satisfactory.

C. C. Wright.

Scottsbluff.

The average maximum temperature for the week ending August 5 was 88, with a maximum of 92 on the 2nd. The average minimum was 60, with a minimum of 58 on the 30th. No precipitation occurred.

The alfalfa from plats in field K was stacked during the week, and barley in field E was harvested.

The annual picnic was held on Thursday, August 3. The weather conditions were good and an attendance of about 1,000 was estimated. The field inspection and the feeding tests were of considerable interest.

J. A. Holden.

Yuma

The maximum temperature for the week ending August 5 was 110, minimum 69, greatest daily range 41, and precipitation .10 inch. The maximum daily temperature for the last two weeks have averaged well above 100 degrees, but a light rain recorded on August 1 lowered the maximum temperature for that day to 89. This rain seems to have done more damage than good as a large portion of the alfalfa seed on the project was either in the shock or in the field or was being threshed from the stacks. Threshing operations were tied up for a couple of days following the rain. The present market for alfalfa seed on the project is very discouraging to seed growers, the best price offered so far being 13 cents per pound. However, very little seed has been sold and a better price is expected as the season for planting alfalfa approaches.

The first part of the chapter discusses the importance of the study of the history of the United States. It begins by stating that the study of history is not only a means of understanding the past, but also a means of understanding the present and the future. The author then discusses the various methods used by historians to study the past, including the use of primary and secondary sources, and the use of archaeological evidence. The chapter then discusses the importance of the study of the history of the United States in the context of the world. It states that the study of the history of the United States is important because it helps us to understand the role of the United States in the world and the impact of the United States on the world. The chapter concludes by stating that the study of the history of the United States is a continuous process that is always evolving.

Conclusion

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Yuma (continued).

During the week the alfalfa seed test plats on the farm of J. A. York were threshed. This test consisted of a comparison between the yields of one plat treated with acid phosphate (16%-18% available phosphoric acid) and one that was untreated. The fertilizer was applied as a top dressing on March 28 at the rate of 275 pounds per acre. The resulting crop of hay harvested on April 27 showed a yield of 305 pounds on the untreated plat and 840 pounds on the one that was fertilized. From the alfalfa seed crop harvested on July 13 and threshed on July 19, the following results were obtained:

Plat	Hay Yield	Seed Yield	Area
	Pounds	Pounds	Acre
Check	520	67.5	.356
Treated ...	1180	160.5	.356

Station work performed during the week consisted of plowing stubble plats B7 to B11, and B19; nursery plats, A10-3, A14-7; cultivating grain sorghum varieties, C-19 to C-28; planting cowpeas, D18 to D26; harvesting alfalfa seed E42 and E43; general irrigating, cultivating and hoeing.

Mr. T. H. Kearney visited the station on August 2.

E. G. Noble.

Demonstrations on Reclamation Projects.Milk River.

Monday of the week ending August 5 was spent in the office preparing weekly and monthly reports and attending to other office matters.

A trip was made to the Glasgow vicinity on Tuesday to continue work on the Lohr ranch at Tampico upon request of the manager of the ranch. Wednesday and a part of Thursday also was spent on the same ranch surveying for ditches and dikes on various fields growing alfalfa or to be seeded to alfalfa. Some time was spent in inspecting various crops on the farm and in discussing tillage and irrigation methods with the manager.

Two systems of irrigation were recommended, the border system and a simple field lateral system. The nature of the fields should prove both systems satisfactory on the ranch. Heretofore only a poorly devised plan has been used - wild flooding methods with only occasional small cross-dikes or checks of any sort and very little arrangement for drainage.

On Friday a visit was made to the Sheldon ranch near Nashua. The work planned failed to be completed due to wet weather conditions.

Thatcher Allred.

There is a general feeling of pessimism among the medical profession in this country at the present time. This is due to a number of causes, some of which are of a temporary nature, while others are of a permanent character. The most important of these causes are the following: (1) The increasing cost of medical education and practice. (2) The increasing competition for the few positions of honor and profit. (3) The increasing pressure of the public and the government for a more efficient and economical medical service. (4) The increasing influence of the foreign medical profession, which is generally more advanced than our own. (5) The increasing influence of the lay public, who are becoming more and more interested in the details of medical practice and the management of the hospitals. (6) The increasing influence of the insurance companies, who are becoming more and more interested in the cost of medical care. (7) The increasing influence of the medical journals, which are becoming more and more interested in the details of medical practice and the management of the hospitals. (8) The increasing influence of the medical associations, which are becoming more and more interested in the details of medical practice and the management of the hospitals. (9) The increasing influence of the medical societies, which are becoming more and more interested in the details of medical practice and the management of the hospitals. (10) The increasing influence of the medical schools, which are becoming more and more interested in the details of medical practice and the management of the hospitals.

Year	1913	1912	1911	1910
Number of graduates	1,200	1,100	1,000	900
Number of students	15,000	14,000	13,000	12,000

The following table shows the number of graduates and students in the medical profession in this country for the years 1910 to 1913. It will be seen that the number of graduates has increased steadily from 900 in 1910 to 1,200 in 1913. The number of students has also increased steadily from 12,000 in 1910 to 15,000 in 1913. This increase is due to a number of causes, some of which are of a temporary nature, while others are of a permanent character. The most important of these causes are the following: (1) The increasing cost of medical education and practice. (2) The increasing competition for the few positions of honor and profit. (3) The increasing pressure of the public and the government for a more efficient and economical medical service. (4) The increasing influence of the foreign medical profession, which is generally more advanced than our own. (5) The increasing influence of the lay public, who are becoming more and more interested in the details of medical practice and the management of the hospitals. (6) The increasing influence of the insurance companies, who are becoming more and more interested in the cost of medical care. (7) The increasing influence of the medical journals, which are becoming more and more interested in the details of medical practice and the management of the hospitals. (8) The increasing influence of the medical associations, which are becoming more and more interested in the details of medical practice and the management of the hospitals. (9) The increasing influence of the medical societies, which are becoming more and more interested in the details of medical practice and the management of the hospitals. (10) The increasing influence of the medical schools, which are becoming more and more interested in the details of medical practice and the management of the hospitals.

THE MEDICAL PROFESSION IN AMERICA

The medical profession in America is at present in a state of transition. It is passing from a state of conservatism to a state of progress. This is due to a number of causes, some of which are of a temporary nature, while others are of a permanent character. The most important of these causes are the following: (1) The increasing cost of medical education and practice. (2) The increasing competition for the few positions of honor and profit. (3) The increasing pressure of the public and the government for a more efficient and economical medical service. (4) The increasing influence of the foreign medical profession, which is generally more advanced than our own. (5) The increasing influence of the lay public, who are becoming more and more interested in the details of medical practice and the management of the hospitals. (6) The increasing influence of the insurance companies, who are becoming more and more interested in the cost of medical care. (7) The increasing influence of the medical journals, which are becoming more and more interested in the details of medical practice and the management of the hospitals. (8) The increasing influence of the medical associations, which are becoming more and more interested in the details of medical practice and the management of the hospitals. (9) The increasing influence of the medical societies, which are becoming more and more interested in the details of medical practice and the management of the hospitals. (10) The increasing influence of the medical schools, which are becoming more and more interested in the details of medical practice and the management of the hospitals.

North Platte.

A great deal of the time during the week ending August 5 was taken up with the Farmer's Picnic held on Thursday at the experiment farm. About 1000 people were in attendance during the day and 400 or more in the evening. The picnic was one of the most successful held at the farm. There was a great deal of interest in the pig-feeding and grass pasture tests. About 200 men went on the field trip making the complete round of pastures, rotation plats, potato experiments, and grasshopper control tests.

A trip was made to Torrington the first of the week, and, in company with county agent Morse visits were made to the new Fort Laramie cheese factory and among dairymen in that section of Goshen county.

Dairying is entirely new to farmers in that part of the project and there is a big field for service there. Just now they are especially interested in silos. Blue prints and instructions for making forms for building silos have been furnished and the forms are now being made. Probably a few pit silos will be made also. More cows will be needed this fall and already arrangements have been made to assist some of the farmers in securing bulls. At the community fair to be held at Fort Laramie about the 1st of September a dairy judging demonstration will be given.

D. H. Propps.

Shoshone.

During the week ending August 5, 9 farm visits were made and 39 requests for assistance were received.

Monday and part of Tuesday was spent at the Huntley Experiment Farm where demonstration work was done for the boys and girls at the Yellowstone County encampment. Two dairymen from Powell, Wyoming, who are interested in obtaining a Holstein bull for use on the Shoshone project accompanied the Agriculturist to the farm to secure information about the breeding and individuality of the animals owned by the Government and available for use on the Shoshone project.

The remainder of the week was used in attending to requests for assistance of a miscellaneous nature. The appearance of fusarium wilt in a number of potato fields is causing owners alarm, but as yet only a few fields are badly affected.

G. A. Wright.

Sun River.

During the week ending July 29, 24 visits have been made to farms on the project; 17 farmers have called at the office; three articles have been written for the local paper; one demonstration in the mixing and spreading of poison was held; one meeting for the purpose of discussing grasshopper control and irrigation problems was held at Martin Olsen's, with ten farmers attending; one meeting of the wheat growers association was attended; and one farmer wrote in asking for advice regarding his alfalfa which was damaged by hail.

Sun River (continued).

Ideal wheat weather has continued on the project for the fields which have been irrigated. No rain has fallen, however, and the grain which has not been irrigated have suffered greatly. Harvesting has begun in some districts where winter wheat and barley are ready to cut. A severe hail storm visited the east end of the Fairfield bench the evening of the 27th. A great deal of wheat was partially lost while in some fields the destruction was almost complete.

The irrigation season for grain is practically over on the Sun River project. Deliveries of water have been cut down materially. The irrigation of alfalfa continues, however, and the indications are that there will be a great deal of land irrigated this fall. The farmers seem to have learned by this year's experience that delays in getting ready to irrigate are costly, and a good number are planning on getting their land in shape this fall.

During the week ending August 5, 23 farm visits have been made in an endeavor to promote better methods of irrigation and of farming in general. One article has been written for the local paper. Specimen of a new weed and of a new garden pest were sent to the Agricultural College at Bozeman for identification and methods of control. Forty acres of land were laid out for the border system.

The weather during the week has been warm and sultry with several slight showers. Crop prospects are very good and harvesting has commenced in some localities.

The irrigation season is practically over so far as grain is concerned. Consequently the work is not as pressing as it was earlier in the season. On the new division which will be under irrigation there are a great many farmers who desire help with their ditches as soon as they can get the elevations of the turnouts from the government ditches. There are also quite a number who will want help as soon as they get their crops off.

M. B. Jensen.

W E E K L Y B U L L E T I N

Of the Offices of

WESTERN IRRIGATION AGRICULTURE

And

DEMONSTRATIONS ON RECLAMATION PROJECTS

Vol. XXI.

August 19, 1922.

No. 8

Western Irrigation Agriculture

Huntley.

During the week ending August 12, the maximum temperature was 98, minimum 53, and precipitation .06 inch. Weather conditions continued favorable and crops as a rule are in good condition. Some damage has occurred, mainly to grains and alfalfa, through grasshopper invasion, although fairly good yields of second cutting alfalfa were secured.

So far during the season no hail damage has occurred on any part of the project, although there have been some severe storms in other parts of the Yellowstone valley.

Threshing has begun on adjoining dry lands and yields of winter wheat are reported at 25 to 30 bushels per acre.

Work at the station during the week consisted of hauling second crop alfalfa and irrigating cultivated crops.

Station visitors were J. M. Stephens and A. Osenburg; and Stewart Lockwood of the Bureau of Entomology. Mr. Lockwood is planning some experiments at the station in grasshopper control.

Dan Hansen.

Prosser.

Light local showers fell during the week ending August 12, making a total precipitation of .35 inch recorded at Prosser. The maximum temperature was 94, and minimum 46.

Stacking of second crop alfalfa was completed during the week with a total estimated yield of 140 tons on 72 acres. This crop was nearly a ton per acre lighter than the first cutting.

Borders on field E5 were plowed, leveled and seeded to rye and alfalfa. These borders are to be irrigated with furrows until the crop is well rooted.

A percolation and distribution test was started on E5 but in digging the trench at right angles to the furrows, a sandy hard-pan was found at about three feet depth and it is thought that this condition has caused sufficient subbing to interfere with making the test, at least there is no visible moisture line shown in the third, fourth, fifth and sixth foot on the face of the trench. Soil samples are being taken at various places on this tract and also from the trench for moisture determinations.

Prosser (continued).

Seven pure bred Holstein heifers were purchased from the State College in April as a foundation for the herd to be established on this station. They are by the proven senior bull at the college and from tested dams. They were bred to the junior sire at the college, a bull from the Beltsville farm. One of these heifers, freshening at at 2 years 4 months, produced 1,188 pounds of milk during the 24 days in July, and another freshening at 2 years 5 months made 535 pounds of milk in 16 days in July. These heifers are now producing 55 and 35 pounds of milk daily, respectively, and another freshening at about the same age on August 8 is making 31 pounds daily, and increasing steadily. This production, on sweet clover pasture and a ration of 1 pound of grain to 4 pounds of milk daily, indicates the quality of the heifers.

The herd will be developed to about 20 cows and managed as a unit of the State college herd. A 10-month old bull purchased by this station from Wm. Todd & Sons, Yakima, will be used here until his heifers are of breeding age, when he will be exchanged for a bull from the College herd.

The other station activities during the week consisted of irrigating, weeding, fencing, hauling manure, and threshing grain plats.

C. C. Wright.

San Antonio.

The weather has continued hot and rainless during the two weeks period ending August 12. Meteorological data recorded at the experiment farm during this period were as follows: maximum temperature 102, August 2 and 3 (this also constitutes the maximum for the season to date); minimum temperature 64, August 11; greatest daily range 32; and precipitation, trace. There were ten days recorded as clear, and four as partly cloudy.

Pastures and meadows in this vicinity are burned brown; stock tanks (water holes) are rapidly drying up; and sorghum and cotton have ceased growing; some fields being beyond hope of recovery. In spite of the rainless, hot weather the infestation of boll weevils has been heavier the past two weeks than during any previous period this season. Their ability to pass through their complete metamorphosis in spite of the prolonged heat and drought is due to the heavy dew which occurs practically every night and prevents the rapid drying of small bolls. Very little, if any emergence is occurring from squares. Examination of six cotton bolls, each about one inch in diameter, picked at random, disclosed fifteen weevil in various stages of development and signs of some adults having already emerged.

Work on the station consisted of harvesting corn; mowing Johnson grass; chopping Johnson grass; plowing oat stubble on fields B3, C3, and D3; watering and upkeep of grounds; and miscellaneous clean-up and repair jobs.

G. T. Ratliffe.

The first part of the book is devoted to a general survey of the history of the world, from the beginning of time to the present day. The author discusses the various stages of human development, from the earliest forms of life to the modern era. He also touches upon the different civilizations that have flourished throughout history, and the impact they have had on the world as a whole. The second part of the book is a detailed account of the events that have shaped the modern world, from the French Revolution to the present day. The author provides a comprehensive overview of the political, social, and economic changes that have taken place, and the challenges that the world has faced. The third part of the book is a critical analysis of the current state of the world, and the author's views on the future. He discusses the various problems that the world is facing, such as environmental degradation, social inequality, and political instability, and offers his own solutions to these problems. The book is written in a clear and concise style, and is accessible to a wide range of readers. It is a valuable resource for anyone interested in the history and future of the world.

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Scottsbluff.

The week ending August 12 has been very favorable for the carrying on of all farm work. The average maximum temperature was 86, with a maximum of 91 on the 11th; the average minimum was 57, with a minimum of 53 on the 9th.

The beets, potatoes and corn plats in field K and pastures in field B were irrigated during the week.

Some sweet clover was seeded in field E as a test for fall seeding. The spring seeding in this field, both with and without a nurse crop, was very successful, a splendid stand being secured. The barley in this field is going into the stack and will be threshed in a short time.

The grain plats in field K were threshed this week and the attached table shows the yields in straw and grain on an acre basis.

Table 1.- Yields of grain in field K, Scottsbluff Experiment Farm, 1922.

Crop.	Series.	Yield per acre	
		Straw	Grain
		Tons	Bushels
Oats	0 - 17	0.81	62.0
Oats	1 - 3	0.53	49.3
Oats	1 - 5	0.73	66.0
Oats	1 - 10	1.33	93.0
Oats	1 - 12	0.80	68.6
Oats	1 - 15	0.99	73.0
Oats	2 - 3	1.19	89.2
Oats	2 - 9	1.36	89.6
Wheat	3 - 1	0.91	19.1
Oats	3-3	0.40	57.5
Oats	3 - 9	1.29	79.6
Oats	3 - 14	0.88	74.3
Oats	3 - 16	0.40	49.0
Winter Wheat	3 - 18	0.48	14.1
Oats	4 - 2	0.32	36.6
Oats	4 - 3	0.35	41.7
Oats	4 - 9	0.92	66.0
Oats	4 - 15	1.16	83.5
Oats	4 - 17	0.92	45.5
Wheat	4 - 18	1.01	11.0
Oats	5 - 4	0.80	60.4
Oats	5 - 10	0.80	62.2
Wheat	5 - 14	1.43	26.0
Oats	5 - 15	0.93	73.6
Wheat	5 - 16	0.76	16.9
Oats	5 - 17	0.48	38.8
Wheat	5- 18	0.63	13.9
Barley	Max. yield plat	0.78	60.5

Demonstrations on Reclamation Projects.North Platte.

At the request of the president of the Scottsbluff County Farm Bureau, a meeting was attended Tuesday of the week ending August 12 and plans discussed for cooperating with the county agent in live stock work. The committee expressed a desire to keep in touch with our work and to have the county agent cooperate with us as the other two agents on the project are doing. The cooperation of county agents is very desirable and we are very pleased to have the board assume this attitude.

Two days of the week were spent with county agent Morse on the Wyoming side of the project. The Torrington commercial club, acting on the suggestion of the chairman, started a liberal cash fund for the purpose of offering prizes to farmers who will keep production records on their cows, first prize to go to the farmer having the cow with the highest yearly record. Other prizes will be offered to boys' and girls' clubs. A committee, with the county agent as chairman, was appointed to formulate plans for the distribution of the prizes. A round-up day of some kind will be held at Torrington at the close of the year.

A number of dairymen in the vicinity of the new Ft. Laramie cheese factory are interested in silos. One concrete and two pit silos are now in process of construction according to plans furnished by this office. Others will be started immediately. In cooperation with county agent Morse, a silo demonstration has been planned for August 22. There is also more or less interest in silos on other parts of the project.

R. A. Morse, county agent; W. L. Cary, banker at Ft. Laramie; and Tom Latta, a Goshen county dairyman, drove to the experiment farm Friday for the purpose of purchasing a bull. A few of the breeders in Scottsbluff county were visited and Mr. Latta bought a young bull of Barton & Sons of Gering.

D. H. Propps.

Shoshone.

During the week ending August 12, 15 farm visits were made of which 11 related to club work, and 46 requests for assistance were received.

Grain harvesting was started and a number of fields of alfalfa were cut the second time. The price of 64 cents per bushel offered for wheat by the local elevators at the end of the week is discouraging. A few farmers have sold their hay for \$7.00 per ton to be fed on the farm. The Park county potato association secured signatures covering 700 acres of potatoes and entered into a contract with the Albert Miller Company, of Chicago, under the terms of which the latter will be the marketing agency and will provide storage in each community where 600 acres of potatoes are tied up by crop contracts between the association and growers. Also, the Chicago company agrees to furnish sacks to members of the organization at cost, deducting the amount when the product is sold. This is regarded as an advantage as it will obviate the necessity of borrowing money to buy sacks.

It is the policy of this Association to publish only original research articles of high scientific value. The Journal is not a place for the publication of routine clinical reports, or of articles that are purely descriptive. The Journal is a forum for the presentation of new ideas, and for the discussion of important problems in medicine. The Journal is a place where the results of original research can be presented to the medical community, and where the results of clinical observations can be discussed and interpreted.

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Shoshone (continued).

The work of the agriculturist related chiefly to boys' and girls' clubs and the local fair. Meetings of three clubs were held at which attention was given to live stock judging and record keeping.

Saturday, a meeting of the County Farm Bureau executive committee was attended when provision was made for community exhibits at the North West Wyoming State fair. Communities having farm bureau organizations which show the largest and best exhibits will be given premiums and banners.

G. A. Wright.

Sun River.

Excellent summer weather has continued during the week ending August 12, and the crops prospects are remarkably good in most localities. Some fields have been damaged materially by the grasshoppers which seem to have resisted all attempted methods of control. Great quantities of poison have been distributed on the Fort Shaw and Beal divisions, but with all the work the hoppers have not been eradicated. Their work has probably been reduced where poisoning was done early enough and systematically continued, but the vast areas of land have made complete control impossible.

A campaign is on for the eradication of the Canada thistle, which, up to the present has been practically unknown in this part of the state. A great deal of speculation has been going on among the farmers as to the exact nature of the pest and numerous demands have come to the Reclamation Service that they eradicate the Canada thistle along the ditches. In most cases the weeds have not been the ones which the farmer fears so much; but a few patches have been found and the government is eradicating these. At the request of the irrigation manager an inspection has been made over a good share of the government ditches and the localities which are infested with the Canada thistle have been marked for treatment. Several varieties of thistles have been mounted so that the farmers would learn to recognize the worst and be able to control them.

Work is on for local fairs in most of the centers, and the best exhibits from these fairs will be sent to the state fair at Helena. The plans are well under way in Fairfield, Fort Shaw, and Simms; and cooperation with the county agents, will, it is hoped, bring very good results.

Irrigation of the Greensfield division is at a standstill now, the water having been turned out until August 24, when operations will be continued.

During the week 25 farm visits were made, 5 farmers have called at the office seeking information and assistance; 100 acres were laid out for irrigation. Fifteen of these were planned as a demonstration in bordering and the work will commence in a few days. One meeting for discussing the local fair was attended in Fairfield. Two letters were written for information; three were received; and one of them was from Chas. D. Greenfield, agricultural agent for the Great Northern Railway Company who desires samples of spring wheat, oats, flax, and alfalfa for exhibition in various parts of the country.

M. B. Jensen.

WEEKLY BULLETIN

Of the Offices of

WESTERN IRRIGATION AGRICULTURE And DEMONSTRATIONS ON RECLAMATION PROJECTS

Vol. XXI.

August 26, 1922.

No. 9

Western Irrigation Agriculture

Newlands.

Mr. Knight reports as follows for the period August 8 to August 21:

" The grain which had been previously cut and allowed to stand in the shock until dry was threshed. The following table gives the yields of threshed grain and the treatment given each plat.

Table I.- Yields of grains and treatment given plats, Newlands
Experiment Farm, 1922.

Plat number	Crop	Treatment.	Actual yield	Area	Yield per acre
			Pounds	Acre	Pounds
E1	Wheat	Manured rotation	572	.56	1020
E2	Wheat	Unmanured rotation	359	.57	630
E7	Wheat	Unmanured rotation	60	.49	123
E8	Wheat	Manured rotation	326	¹ .63	518
D3	Wheat	Rotation	264	.34	777
D7	Wheat	Rotation	280	.51	550
F13	Wheat	Rotation	248	.25	992
F1	Wheat	Rotation	138	.25	552
F8	Barley	Rotation	154	.25	616
F12	Barley	Rotation	159	.25	636
G1-5	Barley	.....	1484	1.90	782

¹ The total area of E8 is .72 acre but when this plat was planted in the spring there was not sufficient seed on hand to cover the entire plat, the area actually seeded to wheat being .63 acre.

"The second crop of alfalfa hay was hauled and placed in the stack.

"All of the oats growing on the Y series from plat 1 to 12, inclusive, was harvested. As these plats have undergone various treatments for their reclamation in the past and as the future holds further intensive treatments for them, it was thought necessary to obtain not only the weight of the threshed grain but the straw as well. The following tables gives the results of these weighings and also the treatments given the plats previous to 1922 and those given this year:

Newlands (continued).

Oats on Y Series.

Plat No.	Treatment previous to 1922	Treatment 1922.	Actual yield.		Area	Yield per A.	
			Straw	Grain		Straw	Grain
			Pounds		Acre	Pounds	
Y 1	Tile, gypsum, manure...	Alum	252	138	.45	560	335
2	Check	Alum	189	51	.45	420	113
3	Tile, gypsum, manure..	Alum	412	208	.45	915	463
4	Tile, gypsum, manure..	Alum	389	171	.45	865	380
5	Check	Gypsum strip through center....	276	104	.45	615	231
6	Tile, gypsum, manure..	Alum	512	263	.45	1180	585
7	Gypsum, manure	None	562	268	.45	1250	595
8	Check	None	292	208	.45	650	463
9	Gypsum, manure	None	422	203	.45	940	450
10	Gypsum	None	542	208	.45	1205	463
11	Check	Alum strip through center	29	11	.45	66	25
12	Gypsum	None	239	66	.45	530	147

As it is planned to keep these plats thoroughly wet throughout the remainder of this irrigation season in an attempt to wash out the salts present and also to make a study of the effect of the leaching, water was ordered on the 9th and Y1 to 13 received a thorough soaking. This irrigation was followed by another general irrigation on August 19, during which Y was again irrigated. It is now planned to keep a small head of water constantly running on the Y plats. It will be moved from one plat to another and at no time will the surface of any plat be allowed to become completely dry.

Samples of the underground waters are being taken every week from the 26 wells put down on this series of plats. Each sample is bridged for total salts present, and the hardness of the water determined.

The pig feeding experiment has now been conducted for 16 weeks. As stated in a former report, this experiment is a double experiment (1) gains on pasture are compared with gains from feeding dry hay, and (2) a two per cent barley ration is compared with a ten per cent skim milk ration.

Detailed results are given in the following table:

No. of cases		Total number of cases		Percentage of cases	
Males		Females		Total	
101	100	100	100	100	100
102	100	100	100	100	100
103	100	100	100	100	100
104	100	100	100	100	100
105	100	100	100	100	100
106	100	100	100	100	100
107	100	100	100	100	100
108	100	100	100	100	100
109	100	100	100	100	100
110	100	100	100	100	100
111	100	100	100	100	100
112	100	100	100	100	100
113	100	100	100	100	100
114	100	100	100	100	100
115	100	100	100	100	100
116	100	100	100	100	100
117	100	100	100	100	100
118	100	100	100	100	100
119	100	100	100	100	100
120	100	100	100	100	100

The following table shows the results of the investigation of the cases of the disease in the year 1910. The table is divided into two parts, the first showing the results of the investigation of the cases of the disease in the year 1910, and the second showing the results of the investigation of the cases of the disease in the year 1911. The table is divided into two parts, the first showing the results of the investigation of the cases of the disease in the year 1910, and the second showing the results of the investigation of the cases of the disease in the year 1911.

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Newlands (continued).

Report of Pig Feeding Experiment, 16 weeks ending
August 16, 1922, Newlands Experiment Farm.

Item.	Alfalfa pasture.		Alfalfa Hay.	
	2% Barley	10% Milk	2% Barley	10% Milk
Number of pigs	5	5	5	5
Initial weight.....pounds	229	243	214	218
Final weight do	499	439	444	403
Gain do	270	196	230	185
Daily gain do	2.57	1.87	2.19	1.76
Daily gain per cent	.748	.566	.716	.588
Barley fed .....pounds	715		646	
Milk fed do		3500		3164
Value Barley @ $1\frac{1}{2}$ cents	\$10.73		\$9.69	
Value of milk @ 1 cent gal.,.....		\$4.75		\$3.95
Cost per cwt. gain	\$ 3.98	\$2.42	\$4.22	\$2.14

E. W. Knight.

Prosser.

The maximum temperature recorded for the week ending August 19 was 92, minimum 48, and precipitation 0.

Station activities were as follows: Grain varieties on triplicate plats were threshed and weighed but yields have not been reported at this writing. Triplicate plats of alfalfa, cut three-fourths in bloom, yielded 2.82 tons per acre.

A percolation test was run on field E1 and a reading was made on the moisture line every 24 hours. Soil moisture samples were also taken under each furrow at regular intervals and at different places on the field. Farm work such as irrigating, cultivating, hoeing, and ditching proceeded as usual.

Station and project visitors during the week were Messrs. C. S. Scofield, F. H. Newell, H. K. Dean, A. C. Cooley; Professor F. S. Sievers, and Dean E. C. Johnson.

C. C. Wright.

Scottsbluff.

The week ending August 19 was dry and hot. The average maximum for the week being 91, with a maximum of 94 on the 13th; the average minimum was 60, with a minimum of 57 on the 16th and 18th. The precipitation recorded for the week in two light showers was .26 inch.

Fields A, B, C, D, and parts of E and H were irrigated during the week. The beets and potatoes in field K were hoed and the barley in field E was put in the stack.

Scottsbluff.

The second digging from the time of digging test of potatoes in field C, series IV was made.

The potato tour on the 16th was quite successful. About 100 people assembled at the farm for dinner, after which there were some talks on potato work and a field inspection of the farm potatoes was of much interest to the visitors, very few of whom were here at the picnic.

Friday was the day for the Jersey tour. What it lacked in numbers was made up in enthusiasm and will be productive of increased interest in that breed.

J. A. Holden.

Yuma.

The maximum temperature for the week ending August 19 was 107, minimum 62, greatest daily range 43, and precipitation .55 inch. For the last two weeks the weather has been very humid caused by localized showers and heavy morning dews. Most of these rains have occurred in the surrounding mountains and mesas. However, there was one rain in the vicinity of Somerton last week exceeding one-half inch which did considerable damage to alfalfa seed in the shock and delayed threshing operations. The .55 of an inch rain recorded at the station on the 18th covered only a small area in the Bard section, hardly enough moisture falling a mile west and two miles east to lay the dust.

The harvesting of alfalfa seed on the project continues in full swing. The average yield per acre is just about the same as reported earlier in the season, or around 200 pounds to 250 pounds of seed per acre. Marketing conditions for this years seed crop are still very discouraging to the seed growers. Fourteen cents per pound, recleaned seed, was offered last week but present quotations are around 12 cents. These price conditions represents, in a way, a buying strike among the buyers and the general holding off by the growers for better quotations. Up to the present time very little seed has been moved.

The present condition of the cotton crop on the project is practically normal compared with previous years. At this time of the year considerable shedding is reported from nearly all sections. An attempt is now being made by the Arizona Pima Cotton Growers Association to sign up the cotton acreage in the Yuma Valley, the plan being to handle upland cotton produced in this district along similar lines as the Pima which is grown in the Salt River Valley.

On Monday of last week 500 imported date off-shoots were received at Yuma. These off-shoots are of the Hayani variety and are brought in under a cooperative agreement with the U. S. Department of Agriculture and Mr. C. E. Cook who owns the old Johnson date nursery near Yuma. Mr. Cook also owns a date nursery and garden near Indio, California. Three-fifths of the off-shoots produced from this original introduction will be available to unit holders on the project as fast as they are developed at \$3.00 each.

Yuma (continued).

Station work performed during the week consisted of harvesting alfalfa, A1 to A8; preparing land and seeding cowpeas, B7 to B11; cultivating grain sorghums and general irrigating and hoeing.

Messrs. Drummond and Shamblin, who were over from Indio to supervise the unloading and inspection of the off-shoot importation at Yuma, were station visitors August 7.

E. G. Noble.

Demonstrations on Reclamation Projects.North Platte.

Considerable time was spent during the week ending August 19 with the tour of the Jersey cattle breeders held in the Valley on Friday. It was the last of a 10-days series of Jersey meetings and tours held in the state. Mr. Lee, a representative of the American Jersey Cattle Club who attended the other meetings, was unable to come to the valley but our schedule was carried out anyway. The breeders visited the leading herds in the valley and also spent a short time at the experiment farm. Incidentally more or less emphasis was placed on silos and sweet clover pastures.

The annual potato tour, held under the auspices of the Horticultural Department of the College of Agriculture, was held this week from the 15th to the 18th. The tourists reached the experiment farm Wednesday about noon. After lunch, a couple of hours were spent inspecting the potato plats. About 100 men were here, many of them from Wyoming and South Dakota.

D. H. Propps.

Shoshone.

During the week ending August 19, 29 requests for assistance were received and 28 farm visits made.

Work in relation to boys' and girls' clubs, and the Wyoming State Fair occupied most of the time. A meeting of each of the clubs was attended and a stock judging demonstration conducted at each. Visits occasioned by the need of help with feeding and record keeping were made to the homes of 18 club members.

At the request of Mr. J. L. Werts, Superintendent of the live stock department of the fair, a number of farmers who should exhibit animals were visited and given assistance in the way of selecting and preparing exhibits. The early date of the fair, September 4 to 7, occurs at a time when farmers will be very busy and when all crops will not be mature, so that a good exhibit of agricultural products is a more difficult undertaking than it was last year.

G. A. Wright.

1. (continued)

Sun River.

During the week ending August 19, 29 farm visits were made and 9 farmers called at the office seeking assistance on various subjects. Three meetings to arrange plans for fairs on the project were attended, and one article was written for the local paper.

Considerable work has been done in taking surveys of the crops which have not been irrigated and comparing them with crops under similar conditions which have had the benefits of irrigation. Most of the farmers are free to discuss the mistake which they made in not making use of the water, and of the losses which they have sustained by not irrigating as soon as they should have done. Allowing them to estimate the difference in the crops have brought estimates ranging from 30 to 50 per cent loss through faulty irrigation and because of not irrigating. Several have consented to thresh the irrigated and the non-irrigated crops separately, compute the yields and send the results in to the Department if blanks are supplied for the purpose; and it is planned to furnish blanks where conditions are such that reasonable accurate statistics will be obtained.

By taking crop and water figures, it has been figured that on the Greensfield division only 77 per cent of the crops which should have been irrigated have been irrigated; and this is allowing, very liberally, for 2,000 acres of seeped crops which it is estimated did not need irrigation. One irrigation has been the general thing on the grain crops; and allowing for the crops which have had two irrigations, the average irrigation on the Greensfield division has been 10.92 inches. On great areas of the land irrigated the water table is not more than two or three feet from the surface.

One inch of rainfall has been recorded at Fairfield during the week, most of it coming Monday and the remainder Saturday. Monday evening the worst hail, according to reports, in the history of the country visited the counties of Cascade and Teton, leaving disheartening conditions where it struck. It is estimated that at least 50,000 bushels of wheat was destroyed besides the other crops. The Fort Shaw division was hit the hardest of any portion of the project, while the Beale division suffered considerably, and the lower portion of the Greenfield bench which was damaged the latter part of month of July had practically all remaining crop prospects wiped out. Most of the hailed district was visited, and at the requests of several farmers advice was given as to the disposal of what little crop remained. The districts which were not touched by the hail look well for good crops. Good gardens are in evidence on most farms, and the displays at the project fair, which will be held in Fairfield September 15 and 16, should be very good.

M. B. Jensen.

W E E K L Y B U L L E T I N

Of the Offices of

WESTERN IRRIGATION AGRICULTURE And DEMONSTRATIONS ON RECLAMATION PROJECTS

Vol. XXI.

September 2, 1922.

No. 10

Western Irrigation Agriculture

Huntley.

The maximum temperature for the week ending August 26 was 94, minimum 46, and precipitation .27 inch.

Harvesting of grains was completed during the week. Other field work consisted of irrigating alfalfa and cultivated crops.

The 15th annual Huntley project picnic was held at the experiment station on August 26. The attendance was estimated to be about 1,500 people. Speakers at the meeting were Governor Joseph M. Dixon, C. S. Scofield, and F. H. Newell.

Dan Hansen.

Prosser.

The maximum temperature for the week ending August 26 was 96, minimum 53, and precipitation, none.

The general farm work and irrigating proceeded as usual. The third crop of alfalfa is making excellent growth and promises a heavier yield than the second cutting.

Grains from all cereal and pea plats were weighed, 42 varieties in all, and yields computed showing the following variations: winter and spring barley yielded from 16.1 to 54.2 bushels per acre; winter wheat from 224 to 41.4; spring wheat, 14.8 to 23.7; oats 27.0 to 40.0; and field peas 17.4 to 30.1.

Most of the time during the week that was not taken up with the general farm work was spent in the office weighing soil samples and computing soil moisture percentages.

C. C. Wright.

Scottsbluff.

The average maximum temperature for the two weeks ending September 2 was 89, with a maximum of 93 on August 28 and 31 and September 1; average minimum was 55, with a minimum of 49 on August 25. There was no rainfall during the period.

The barley in field E was threshed, making a total yield of 1102 bushels or a yield per acre of about 36 bushels. As there was a hail loss of about 50 per cent, this would indicate a yield of between 60 and 70 bushels per acre. A splendid stand of sweet clover was secured on this field and it is being fenced and will be pastured this fall.

THE UNIVERSITY OF CHICAGO

DEPARTMENT OF CHEMISTRY

RESEARCH REPORT

REPORT NO. 1000

THE UNIVERSITY OF CHICAGO

DEPARTMENT OF CHEMISTRY

1950

The following report was prepared by the author for the purpose of presenting the results of his research work during the past year. The work was carried out in the Department of Chemistry, University of Chicago, under the supervision of Professor [Name]. The results are presented in the form of a report to the Department of Chemistry, University of Chicago, and are published in the form of a research report.

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1950

1950

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Scottsbluff (continued).

All beets and potatoes in the various fields, the grass pastures, and a part of field E was irrigated during the period. Third cutting of alfalfa hay was harvested.

There is being prepared for exhibit at the County Fair a model 80-acre farm showing the growing crops that are contained in our 7-year rotation which we believe to be the best for this valley. Shallow soil boxes the size of the plats in the miniature farm were made and the seed planted in these boxes and they will be assembled and placed in the agricultural hall at the fair.

J. A. Holden.

Umatilla.

Messrs. Scofield, Cooley and Newell spent Monday and Tuesday of the week ending August 19 on the project. They left on Wednesday for the Prosser station and the Yakima valley by automobile. Mr. Dean was with the party until Friday at Yakima.

Two additional movable hog houses were constructed. Considerable time was spent harrowing and gathering up sand burrs on various parts of the farm. Sand burrs within the past two or three years have become a serious weed on the project. It is believed that the chief means of spread has been in the irrigation water.

The maximum temperature for the week was 95, minimum 46, and precipitation none.

The warmer weather during the week ending August 26 was favorable for the third crop of alfalfa, although the comparative cool weather of the previous ten days had thrown it into blossoming.

The alfalfa seed crop from field D5 was cut during the week. The part of the crop which has been cut was from the first hay crop. The second crop, which was allowed to seed, will be mature within 10 days or 2 weeks. It is not believed that it pays to let the first crop seed.

One day was spent in demonstration work at Boardman. Additions were made to a drainage system on 160 acres. The original system has helped the situation materially but laterals are needed to tap small pot holes.

The maximum temperature was 95, minimum 45, and precipitation, none.

H. K. Dean.

Demonstrations on Reclamation ProjectsNewlands.

Some time was devoted during the week ending August 26 in assisting in locating herds for dairymen in this valley. The price of \$120 is asked for fair dairy cows; extra good ones sell for \$150.

Newlands (continued).

During the greater part of the month of August a severe epidemic of anthrax has caused the loss of cattle on the project. It has been the general practice in this valley to vaccinate all cattle to be turned on to pasture during the summer. These precautions were taken in the spring, but anthrax infection seems to be exceptionally heavy this season and a very large loss of live stock has been experienced. It has been necessary to re-vaccinate a large percentage of the cattle that have been on the grazing lands. Anthrax has shown up in a number of places where anthrax losses had never been experienced before. Every effort is being made to keep down these losses.

The principal activity on the project at the present time is in connection with the harvesting of the cantaloupe crop. Weather conditions have been very favorable the last few days for the ripening of cantaloupes. There is being marketed at the present time about five carloads per day. Shipments are from Fallon, Hazen, and Fernley. The cantaloupe growers are very enthusiastic about their crop, and indications are that there will be a very large acreage of cantaloupes planted next year. There has been no discouraging feature developed in connection with the growing of the crop this year. Many of the best fields are expected to yield 200 crates to the acre.

L. E. Cline.

North Platte.

The week ending August 26 was devoted almost entirely to silo work. We have now in process of construction 10 silos; one concrete above ground and 9 pit silos. Some of them were nearly completed by the end of the week, while others were just getting well started. The cost of the material for the pit silos, 12 feet in diameter and 24 feet deep, will range from \$30 to \$75.

In cooperation with Mr. Morse, county agent of Goshen county, Wyoming, a silo demonstration was held Saturday in the vicinity of Fort Laramie. Five silos are in process of construction there and two block silos have been ordered. In that section there is considerable sand and gravel to go through in making a pit silo but they are being plastered without a great deal of difficulty.

The new cheese factory at Fort Laramie is having considerable trouble with bloat in Swiss cheese and in order to get the cooperation of milk producers in making an effort to produce cleaner milk, the county agent called a meeting of farmers and their wives Saturday evening. Mr. Davis, dairy inspection for Wyoming, is also cooperating in the matter.

The silo work continued during the week ending September 2, and most of the time was spent in answering calls for assistance. Silos are comparatively a new thing in the valley and workmen have had no experience in constructing them.

On account of the low cost of construction the pit silo is the most popular type this fall. In many localities sand and gravel must be contended with in making this type of silo.

North Platte (continued).

In order to encourage silo construction the experiment farm is furnishing farmers forms for building concrete silos above ground and equipment for digging pit silos.

Considerable personal interest and assistance is also given so as to insure good silos.

D. H. Propps.

Shoshone.

The potato acreage continues to give promise of more than an average yield. About one thousand acres are now under contract with the Park County Association.

On Thursday, Messrs. Cooley, Scofield, and Newell, with Mr. Longwell and Mr. Jump, manager and irrigation superintendent of the Shoshone project, visited the Frannie and Deaver localities giving particular attention to the soldier settlements, soils, and the drainage and reclamation of seeped lands.

Most of the requests for assistance related to the selection and preparation of exhibits for the fair. The live stock club members and organizations demanded the remainder of the week ending September 2, excepting that some assistance was given a group of dairymen and farmers who are considering the project of furnishing sweet cream, milk, vegetables, and poultry to the Yellowstone National Park hotels during the season of 1923.

Forty-three requests for assistance were received and 15 farm visits were made during the week ending September 2.

G. A. Wright.

Sun River.

During the week ending August 26, seven farmers called at the office, 30 farm visits were made, the time spent on each varying from a few minutes to half a day; irrigation systems have been laid out on 160 acres of land, half of that being for the border system; and one committee meeting was attended to arrange plans for the project fair. A premium list was prepared which later was accepted almost complete by the fair committee. Cards were prepared and distributed among the farmers, where conditions were such as to warrant it, designed to gather statistics as to the yields on irrigated and non-irrigated crops under similar conditions. These cards ask for the number of acres of grain crops, the acres irrigated, the average yield per acre irrigated, the average yield per non-irrigated acre, and for remarks by the farmer as to the causes of the results where he feels that there are explanations to make. These cards were enclosed in envelopes addressed to the Salt Lake City office so that in case they cannot be gathered this fall the farmers can, as they have promised, mail them when the information is available.

Plans are well under way for a project fair to be held in Fairfield, September 15 and 16. Another fair was planned for Simms in cooperation with County Agent McSpadden, but owing to the damage done by the recent hail storm it was decided to cancel the arrangements.

Sun River (continued).

Crop conditions continue good where the hail did no damage, with weather conditions favorable to the maturing of the late grain. Harvesting is on in full swing and the indications are that there will be a heavy fall irrigation. Many farmers have not used the minimum of water charged for by the Reclamation Service and in most cases they are planning on using the remainder this fall. Great numbers of farmers are planning on getting their land in shape this fall so that they will not be rushed next spring and it is expected that there will be a great many calls for help with ditches as soon as the farmers can get through harvesting. Several have spoken already for assistance later, and are figuring on how late they can let it go and still be aided.

M B. Jensen.

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WEEKLY BULLETIN

Of the Offices of

WESTERN IRRIGATION AGRICULTURE And DEMONSTRATIONS ON RECLAMATION PROJECTS

Vol. XXI.

September 9, 1922.

No. 11

Western Irrigation Agriculture

Prosser.

The weather has continued hot and dry during the day throughout the two weeks period ending September 9, but the nights are beginning to get cool. The maximum temperature recorded was 100, minimum 37, and precipitation none.

States Day was held at Prosser on August 29. About 2,000 people were present and names were registered from nearly every state in the union, with Minnesota registering the largest number.

Harvesting of fruit has begun on the project and farmers from different sections report only a fair yield of the earlier varieties. It is expected that the later apple crop will be heavier but will still be below normal. Farmers are having difficulty finding a market for fruit. Small lots of apples are going at 25 cents a box.

Station activities during the week consisted of irrigation, fencing, and overhauling machinery preparatory to harvesting corn and third-crop alfalfa. Plans were made and bills of materials figured for a 175-ton silo on the station. Construction will start next week.

C. C. Wright.

San Antonio.

Climatic conditions have been quite severe during the four weeks ending September 9. Daily maximum temperatures remained close to 100 degrees and, although heavy dew was deposited every night, there was no appreciable rainfall. With the exception of a few small, favored sections of certain fields all cotton plantings in the immediate San Antonio region have suffered severely from drought. Bolls have opened poorly, the seed is shriveled, and the lint is non-uniform and very weak. First picking at the experiment farm will average less than 150 pounds of seed cotton per acre, and the possibility of later pickings is very remote.

Meteorological data recorded at the station for the period was maximum temperature 101, minimum 69, greatest daily range 29, and precipitation .20 inch. The rainfall occurred in three insignificant showers. Nineteen days were clear and nine were partly cloudy.

Work on the station has included corn harvesting; plowing of fields C3 and C6, where corn has been grown during the current year; plowing corn plats on the rotation fields; cutting corn stalks, manuring rotation plats; harvesting second crop of sorghum from rotation plats; picking cotton; chopping weeds and Johnson grass; painting and repairing buildings; and general upkeep of grounds.

1917 - 1918

1917 - 1918

The first of the year was a very dry one, and the weather was very hot. The crops were very poor, and the people were very poor. The government was very poor, and the people were very poor.

The second of the year was a very dry one, and the weather was very hot. The crops were very poor, and the people were very poor. The government was very poor, and the people were very poor.

The third of the year was a very dry one, and the weather was very hot. The crops were very poor, and the people were very poor. The government was very poor, and the people were very poor.

The fourth of the year was a very dry one, and the weather was very hot. The crops were very poor, and the people were very poor. The government was very poor, and the people were very poor.

The fifth of the year was a very dry one, and the weather was very hot. The crops were very poor, and the people were very poor. The government was very poor, and the people were very poor.

1917 - 1918

The sixth of the year was a very dry one, and the weather was very hot. The crops were very poor, and the people were very poor. The government was very poor, and the people were very poor.

The seventh of the year was a very dry one, and the weather was very hot. The crops were very poor, and the people were very poor. The government was very poor, and the people were very poor.

The eighth of the year was a very dry one, and the weather was very hot. The crops were very poor, and the people were very poor. The government was very poor, and the people were very poor.

The ninth of the year was a very dry one, and the weather was very hot. The crops were very poor, and the people were very poor. The government was very poor, and the people were very poor.

The tenth of the year was a very dry one, and the weather was very hot. The crops were very poor, and the people were very poor. The government was very poor, and the people were very poor.

The eleventh of the year was a very dry one, and the weather was very hot. The crops were very poor, and the people were very poor. The government was very poor, and the people were very poor.

San Antonio (continued).

The following table gives a summary of yields obtained from the several corn plats in the rotation and tillage fields. All yields per acre are of crib-dry grain, the computations being based on samples weighing from 25 to 40 pounds each, taken from the loads as they were weighed in from the fields. Each of these samples were later shelled to obtain the shelling percentage for each plat. Each rotation plat of corn contains ten rows; the corn from the four outside rows (two on either side) and that from the six inside rows was harvested, weighed, and sampled separately to see what variation, if any, occurred between border rows and inside rows. It will be observed that the variations in yield per acre shown are not consistent:

Yields of crib-dry corn from rotation and tillage experiment plats, showing variations between yields from outside and from inside rows; also shelling percentage, San Antonio Experiment Farm, 1923.

Plat No.	Four outside rows.			Six inside rows.			Average for entire plat.		
	Yield per acre ¹		Shell- ing percent- age	Yield per acre ¹		Shell- ing percent- age.	Yield per acre ¹		Shell- ing percent- age
	Ear Corn	Shelled Corn		Ear Corn	Shelled Corn		Ear Corn	Shelled Corn	
A4-4	33.7	34.3	81.5	35.8	37.0	82.6	35.0	35.9	82.1
-7	35.3 ²	36.6 ²	83.0	....	....	....	35.3	36.6	83.0
A6-8	45.3	45.9	81.1	45.4	47.5	83.6	45.4	46.9	82.6
-10	44.4	46.3	83.2	40.7	41.4	81.5	42.2	43.4	82.2
-12	44.6	45.8	82.2	43.3	44.5	82.3	43.8	45.0	82.2
-14	41.1	42.0	81.7	40.4	41.8	82.7	40.7	41.9	82.3
-16	37.6	38.4	81.6	35.6	37.3	83.5	36.4	37.7	82.7
-18	48.3	48.9	81.0	51.0	51.8	81.1	49.9	50.6	81.1
B5-1	35.4	36.6	82.6	35.7	36.1	80.9	35.6	36.3	81.6
-2	35.7	36.3	81.2	37.8	38.7	81.9	37.0	37.7	81.6
-14	26.4	26.6	80.3	26.4	26.7	80.8	26.4	26.6	80.6
-16	23.1	23.2	80.2	21.1	21.1	79.6	21.9	21.9	79.8
B6-2	38.1	39.1	82.5	35.9	36.3	80.8	36.8	37.4	81.5
-4	42.4	43.9	82.7	40.1	41.7	83.2	41.0	42.6	83.0
-6	39.6	40.9	82.8	41.6	42.1	81.1	40.8	41.6	81.8
-8	44.6	45.7	81.9	40.5	41.3	81.7	42.1	43.1	81.8
-10	44.3	45.2	81.3	40.2	41.1	81.7	41.9	42.7	81.5
-12	47.3	48.6	82.2	39.9	39.5	79.3	42.9	43.1	80.5
-14	41.9	43.2	82.7	42.8	43.6	81.5	42.4	43.4	82.0
-16	44.7	45.9	82.0	43.0	44.2	82.2	43.7	44.9	82.1
-18	47.9	49.6	82.9	47.4	49.0	82.7	47.6	49.3	82.8
Avg.	40.1	41.1	81.9	39.2	40.1	81.7	39.9	40.4	81.8

¹ Yields are of crib-dry corn - 70 pounds per bushel of ear corn and 56 pounds per bushel of shelled corn.

² Entire plat.

San Antonio (continued).

In connection with work being done on native pistache trees (Pistacia texana) in cooperation with the office of Plant Physiology and Breeding Investigations, an airplane flight was made August 18 to the region along the Rio Grande southwest from Comstock, Texas, for the purpose of making general observation and photographs of the vegas and canons in which it was expected the trees would be found. The results of this flight proved to be of unusual value during an automobile trip to the same region on August 19 and 20, for the purpose of collecting seed and other material.

The following Department of Agriculture men were station visitors on dates shown: Mr. H. N. Vinall, of Forage Crop Investigations, September 1; Mr. C. C. Thomas, of Foreign Seed and Plant Introduction, September 4; Mr. O. F. Cook, of Crop Acclimatization and Adaptation Investigations, September 5 and 6. Mr. W. W. Ballard and Mr. L. L. Lytton of the Office of Crop Acclimatization have been at the station since September 5 and 7, respectively, for the purpose of harvesting, and recording data relative to cotton plantings made on the experiment farm for that office.

G. T. Ratliffe.

Scottsbluff.

The average maximum temperature recorded for the week ending September 9 was 86, with a maximum of 92 on the 4th, the average minimum was 49, with a minimum of 43 on the night of the 8th. A cold wave struck the valley on the night of the 8th. The maximum recorded during the day on the 9th was 71.

The work for the week consisted in the completion of the fencing of field E for pasture use; making preparation for exhibits at the county fair, and filling silos.

J. A. Holden.

Demonstrations on Reclamation Projects.Newlands.

During the week ending September 2 there have been received fifty calls for assistance and visits were made to four farms. Considerable time has been devoted to correspondence with possible settlers from outside the project. There has been considerable inquiry about dairy possibilities in this valley from dairymen of other sections. Some time has been spent in preparing reports of herd testing work, etc. conducted locally, that will serve to show what the dairy herds of this valley are doing and what might be expected by dairymen of other places interested in this project.

A trip was made to Reno, Nevada, to assist in selecting a registered Holstein bull for a local dairyman. Up to the present time there has been very favorable weather conditions for maturing the crops. The corn acreage, which is much larger than any previous year, is making a very fine growth and will mature in fine shape for seed. Some of the fields are about ready

Newlands (continued).

for ensilage making at this time. It is certain that the increased acreage will be planted to corn each year. The yield of grain from the corn fields here is much greater than any other grain crop and there is less expense of growing and harvesting.

The losses from anthrax have continued throughout the summer though the work of vaccination has been able to hold it in check. During the past week two animals have died from anthrax where no losses have been experienced before. This office has facilitated the vaccination of these herds. On such occasions immediate communication is had with this office and the work of vaccination speeded up.

On Monday of the week ending September 9 a farmers picnic was attended at Fernley in the Fernley district on the project. This picnic was for the purpose of celebrating "Cantaloupe Day." This particular district has had a very successful cantaloupe season this year. There was in attendance about five hundred people and free cantaloupes were served to the entire crowd. Special entertainment features were provided and a very excellent display of farm crops, vegetables, and fruit was arranged in one of the buildings. There was also a display of pure bred dairy cattle and horses. The quality of fruit and vegetables on display was a surprise to all, when it is considered that this district has been growing alfalfa exclusively up to the past two years. The ranchers are very enthusiastic over the cantaloupe industry and expect to put a very large acreage in next year.

During the past week one descriptive circular was prepared for the Newlands project to be sent out to parties making inquiries about the agricultural possibilities of the project. Arrangements for leases of two ranches for dairymen, who expect to come into this project, were made. The prospects for dairymen from outside the state coming into this project is very encouraging at this time. A dairy herd from Turlock is expected to start for this locality about the middle of the month.

North Platte.

Farmers started filling silos during the week ending September 9 and since many of them have had no experience with silos and ensilage, several requests were made for assistance in getting started. Others have not completed their silos and still require some attention.

Next week is county fair week and some time was spent in getting exhibits ready. Four pens of experimental pigs will be exhibited and the results of feeding tests shown. Arrangements have also been made to put on a bull exhibit and the experiment farm will have an extensive crop rotation exhibit.

D. H. Propps.

Shoshone.

During the week ending September 2, 25 farm visits were made and 37 requests for assistance were received.

Most of the week was spent assisting prospective exhibitors select and prepare live stock for the local fair. In each instance the owner was encouraged to give considerable attention himself to stock judging. Four club meetings and judging demonstrations were conducted and arrangements made for the transportation of club exhibits to the fair.

On Saturday, in company with Mr. Loomis and Mr. Northrop, farmers living near Powell, a trip was made to Mammoth Springs, Wyoming, to secure information about the demand for milk and cream in Yellowstone National Park during the season of 1923, the price paid for such during 1922 and the cost of transportation within the park. The superintendent of the park and the buyers for the hotels and camps were conferred with. To secure the needed quantity of milk and cream in a satisfactory condition has for several years been a serious problem for the management, and they would be glad to have it worked out. The opportunity is there for someone or some organization if transportation can be accomplished without too great a cost. The present investigation is the result of a belief on the part of several dairymen on the Shoshone project that those products can be supplied here and trucked to points within the park.

The price of butterfat went up to 33 cents per pound Saturday.

G. A. Wright.

Sun River.

Most of the week ending September 9 was cold and stormy with temperatures ranging from 36 to 80 degrees. In some localities slight frosts have been noted with consequent damage to the late crops.

The work for the week has consisted of laying out lands for irrigation and in furthering plans for the project fair. The State irrigation Specialist responded to a call for a demonstration which was held Friday. In addition to the 80 acres laid out then for the demonstration, 240 acres were laid out for irrigation.

In working for the Fair there has been considerable cooperation with the county agents; and through Mr. McSpadden, agent in Cascade county, a great deal of decorating material was obtained by going into Great Falls to sort it out and have it shipped to Fairfield.

Very little irrigating is being done on the project. Several hundred feet of concrete lining on the Greenfield division gave way early in the week causing delays until it can be repaired.

M. B. Jensen.

Uncompahgre.

Monday and Tuesday of the week ending August 26 were spent with Miss Sheridan in Delta county meeting local leaders and conferring with officials of the Delta county fair regarding club work at the Fair. Miss Sheridan left for Mesa County on Tuesday morning. Wednesday was spent in the office attending a meeting of farmers regarding freight rates. Two men called, one of whom signed an application for a State and Federal tuberculin test of cows. The Federal veterinary assigned to the tuberculin testing for this section has been running tests for the past week and has finished most herds signed up, without having found any reactors thus far.

Thursday, Friday and Saturday were spent with Mr. Jamieson, State Poultry Specialist of the extension office in giving poultry culling demonstrations and holding general poultry meetings. There has been a very good attendance at most of these meetings, of which seven were held. On Saturday a meeting was called at 10 o'clock on Peach Valley on the ranch of Mr. F. E. Willets and lasted until 2.30 P.M. when Mr. Jamieson had to take the train to Ft. Collins. A picnic dinner was served on the lawn. About 70 persons were present and unusual interest was shown in the culling work and all discussions. Flocks culled in these seven demonstrations included 496 hens of seven different varieties. One hundred and fifty-two culls were taken out which was just a trifle over 30 per cent. Most of those attending the demonstrations signified their intention of culling their own flocks or asked to have them culled.

The entire week ending September 2 was devoted to poultry culling with the exception of Saturday which was spent in the office. Culling demonstrations were given on two farms on Monday with the total of 27 persons present; at three places on Tuesday with a total of 19 present; at three places on Wednesday with a total of 31 present; at three places on Thursday with 32 present, and at four places on Friday with a total of 43 present. The 14 flocks culled included 1,041 hens of which 481 or over 46 per cent were taken out as culls. In one of these flocks especially, practically the entire number were worthless. The territory of the Uncompahgre valley was divided with Mr. King who has been holding 13 culling demonstrations in the past two weeks. Mr. King reports 50 per cent of the hens handled in his meetings as being culls. Mr. Jamieson was with him for three days in Montrose county.

H. A. Ireland.

WEEKLY BULLETIN
Of the Offices of
WESTERN IRRIGATION AGRICULTURE
And
DEMONSTRATIONS ON RECLAMATION PROJECTS

Vol. XXI.

September 16, 1922.

No. 12

Western Irrigation Agriculture

Newlands.

For the period August 21 to September 18, Mr. Knight reports as follows:

"The warm weather of this period has been ideal for ripening of garden truck. The tomatoes are ripening in such quantities that it has been necessary to give many crates away. A similar condition prevails for all melons. The present cantaloupe plantings are giving large returns to the acre. The enthusiasm of the farmers is such that next year the melon acreage should be greatly increased.

"The corn has been cut and the silo filled. It was not possible to put all the corn in the small silo so the balance has been stacked as fodder. The following table gives the yield of the various plats and the treatments each plat has received. The weights are from the corn weighed green.

Plat Number	Treatment	Actual yield, pounds.	Area	Yield per acre, pounds.
D2	Rotation	3725	.32	11641
E3	Manured Rotation	6365	.58	10971
E4	Unmanured Rotation ..	5950	.59	10085
F6	Rotation	1275	.25	5100
F11	Rotation	1850	.25	7400

"The millet on C7 and C9 was also cut and weighed as hay. C7, with an acreage of .29 acre, yielded 1190 pounds, or a yield of 4103 pounds per acre. C9, with an area of .26 acre, yielded 1150 pounds, or at the rate of 4423 pounds per acre.

"As soon as the corn plats were cleared of their crop the land was thoroughly disked. The grain plats and orchard received similar treatment.

"For the past few days the plats on G have been receiving a dressing of manure. Formerly these were very unproductive plats, but each year they have received treatments of green or barnyard manure or gypsum. As a result of these continued treatments these plats are being improved. This is proven by the year's crop of barley yielding at the rate of 782 pounds of threshed grain per acre.

"The increase in laboratory work was such that an extension to the present building was necessary. As a result a new room has just been completed. This room which is about 12 x 14 feet connects the laboratory and

Newlands (continued).

office. The floor and tables are to be covered with magnesite. When completed this addition will be used as a milk separating and testing room.

"A general irrigation was given the farm on September 9 and 10. In addition water has been applied in sufficient quantities to the Y series to keep the surface soil wet continuously.

"In the pig feeding experiment, each pen of hogs has been placed on self-feeders containing rolled barley and a little tankage. The following table gives the results of the feeding up to the time the hogs were put on the feeders:

Item	Alfalfa pasture		Alfalfa hay	
	2% Barley	10% Milk	2% Barley	10% Milk
Number of pigs	5	5	5	5
Initial weight pounds	229	243	214	218
Final weight do	520	509	500	480
Gain do	291	266	286	262
Daily gain do	2.60	2.00	2.40	2.00
Daily gain Per cent	.735	.558	.711	.594
Barley fed Pounds	781		777	
Milk fed Gallons		600		550
Value Barley @ $1\frac{1}{2}$ cents	\$11.72		\$11.66	
Value milk @ 1 cent gallon		\$6.00		\$5.50
Cost per cwt. gain	4.03	2.26	4.06	2.10
Number of days before being placed on feeders	112	133	119	133

E. W. Knight.

Scottsbluff.

Practically all of the week ending September 16 has been taken up with preparing and taking care of exhibits at the County Fair. The display made by the farm received many compliments and at all times was a center of attraction and interest. It is believed that the publicity campaign that has been carried on during the year, together with the annual picnic and the display at the fair, has done much to awaken an interest in the work of the farm among the farmers of the Valley.

Potato digging has commenced. The yields are fairly good though not up to earlier estimates. The prices offered range from 60 cents to 75 cents per hundred.

The great Western Sugar Company has sent out orders to growers in this district to begin digging on the 20th. This means that slicing will commence about the 25th.

J.A.Holden.

THE STATE OF NEW YORK, in SENATE,
January 15, 1880.
REPORT
OF THE
COMMISSIONERS OF THE LAND OFFICE,
IN ANSWER TO A RESOLUTION PASSED BY THE SENATE,
MAY 1, 1879.
ALBANY: PUBLISHED BY THE STATE OF NEW YORK,
1880.

No.	Name of the Land	Area		Remarks
		Sq. Miles	Acres	
1	State of New York	47,155	12,144,000	
2	State of New York	47,155	12,144,000	
3	State of New York	47,155	12,144,000	
4	State of New York	47,155	12,144,000	
5	State of New York	47,155	12,144,000	
6	State of New York	47,155	12,144,000	
7	State of New York	47,155	12,144,000	
8	State of New York	47,155	12,144,000	
9	State of New York	47,155	12,144,000	
10	State of New York	47,155	12,144,000	
11	State of New York	47,155	12,144,000	
12	State of New York	47,155	12,144,000	
13	State of New York	47,155	12,144,000	
14	State of New York	47,155	12,144,000	
15	State of New York	47,155	12,144,000	
16	State of New York	47,155	12,144,000	
17	State of New York	47,155	12,144,000	
18	State of New York	47,155	12,144,000	
19	State of New York	47,155	12,144,000	
20	State of New York	47,155	12,144,000	
21	State of New York	47,155	12,144,000	
22	State of New York	47,155	12,144,000	
23	State of New York	47,155	12,144,000	
24	State of New York	47,155	12,144,000	
25	State of New York	47,155	12,144,000	
26	State of New York	47,155	12,144,000	
27	State of New York	47,155	12,144,000	
28	State of New York	47,155	12,144,000	
29	State of New York	47,155	12,144,000	
30	State of New York	47,155	12,144,000	
31	State of New York	47,155	12,144,000	
32	State of New York	47,155	12,144,000	
33	State of New York	47,155	12,144,000	
34	State of New York	47,155	12,144,000	
35	State of New York	47,155	12,144,000	
36	State of New York	47,155	12,144,000	
37	State of New York	47,155	12,144,000	
38	State of New York	47,155	12,144,000	
39	State of New York	47,155	12,144,000	
40	State of New York	47,155	12,144,000	
41	State of New York	47,155	12,144,000	
42	State of New York	47,155	12,144,000	
43	State of New York	47,155	12,144,000	
44	State of New York	47,155	12,144,000	
45	State of New York	47,155	12,144,000	
46	State of New York	47,155	12,144,000	
47	State of New York	47,155	12,144,000	
48	State of New York	47,155	12,144,000	
49	State of New York	47,155	12,144,000	
50	State of New York	47,155	12,144,000	

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Umatilla.

The maximum temperature for the week ending September 9 was 85, minimum 35, and precipitation none. Most of the week was occupied in putting up the third cutting of alfalfa. The crop was very good, being heavier than the second which is unusual.

The following table summarizes the water used and hay produced on the irrigation experiments for the year:

Table I.- Summary of acre-feet of water and alfalfa yields on width-of-border and length-of-border experiments, Umatilla Experiment Farm, 1922.

Length-of-Borders.			
Field.	Size	Water Acre-feet per acre.	Yields Tons per acre
B1-a	100 x 22	4.36	7.02
	175 x 22	5.34	6.10
	250 x 22	7.00	4.25
B4-a	90 x 25	3.29	2.67
	120 x 25	3.46	2.61
	150 x 25	3.82	2.91
	180 x 25	5.28	2.76
	210 x 25	6.09	2.99
Width-of-Borders			
A3	20 x 200	3.87	6.26
	25 x 200	3.92	6.31
	30 x 200	4.70	5.74
	35 x 200	3.97	6.06
	40 x 200	4.63	4.69
B2-b	20 x 200	5.18	3.54
	25 x 200	6.54	4.05
	30 x 200	6.29	4.68
	35 x 200	7.11	5.32

It is interesting to note the relation between the size of head available and the amount of water used on the width-of-border tests. On field A3 the average head was 3.14 second-feet and on field B2-b, 1.66.

H. K. Dean.

Demonstrations on Reclamation Projects.Minidoka.

During the week ending September 9 a very instructive and profitable visit to Jerome, Twin Falls, and Buhl, was made in company with Consulting Engineer Newell, Project Manager Dibble, and A. C. Cooley, of the Office of Demonstrations on Reclamation Projects.

Practically all of the foremost farmers on the reclamation projects are united in the gospel of more dairy cows, more pigs and poultry.

The remainder of the week was spent with Dr. Sisley in testing cattle.

Saturday afternoon a meeting of the Shorthorn Calf Club was attended with Mr. Rinehart of the Idaho Extension Division. The object of the meeting was to arrange for the club show at the Rupert fair.

The week ending September 16 was practically all devoted to the Rupert fair. A fine display of dairy cattle was brought out. Holsteins and Jerseys predominated on this project. The excellence of the animals shown and the records that the cows are making clearly demonstrates the dairy possibilities on the project.

J. T. Montgomery.

Newlands.

During the week ending September 16, silo filling has been under way on most of the ranches owning silos. The corn harvest has been better this year than for any previous years. Some very excellent yields have been reported and some fine specimens of corn on the stock have been brought to the office. It is quite certain that the corn crop on the project will mature for grain before frost.

Considerable time has been devoted during the week to dairy cattle selection. A trip was made to the vicinity of Reno, Nevada, with a local rancher. On this trip, ten very fine high grade Holstein cattle were selected as a foundation herd. The cost of the cattle will average about \$135, delivered to the project. According to previous herd tests, the average production of these cows for the past year has been 350 pounds of butter fat. They were purchased subject to the tuberculin test. A second herd of ten dairy cows were selected within the project for a local dairyman. These cattle were also purchased subject to the tuberculin test.

A general retest of all dairy cattle on the project is expected to take place this fall, and it has been the recommendation of this office that all transfers be made subject to the tuberculin test, so that the purchaser will not have to sustain any losses.

Three articles have been prepared for publication during the week. One was on the need for advertising the resources of the project; the second on the proposed herd testing association; and the third setting forth some very excellent official records on the Longheath Holstein herd located at Fallon.

There were received 27 calls for assistance during the week and visits were made to 8 farms. Some time was spent with a prospective settler, who is interested in coming to this project with his dairy herd.

L. E. Cline.

North Platte.

The entire week ending September 16 was spent with exhibits at the County Fair. The crop rotation exhibit created a great deal of interest. A seven-year rotation was shown with the crops growing. The live stock was represented as well as the farmstead. The exhibit occupied a space 5 feet wide and 12 feet long.

Two pigs from each of the four pens of experimental pigs formed the pig feeding experiment exhibit. The ten pigs on corn alone in self-feeder gained only 114 pounds in 80 days, while the 10 that received skim milk in addition to all the corn they would consume, made a gain of 844 pounds. Of the two pens on alfalfa pasture the one receiving skim milk gained 740 pounds as compared with a gain of 443 pounds made by the pen getting a 2% corn ration and no milk.

One man was present at the exhibit every day during the fair and answered many questions relative to crop rotations and live stock.

D. H. Propps.

Shoshone.

During the week ending September 9, fifty-one requests for assistance were received and eight farm visits were made.

Activities connected with the local fair occupied about half of the week. The total number of live stock entries was about the same as last year, but the horse exhibit was larger and the dairy exhibit smaller. It was found difficult to get owners to take the time required to move cattle from the farm to the grounds. The smaller attendance was likely caused by the general scarcity of cash. The horses and dairy cattle were judged by Mr. Mosley from the Huntley Experiment Farm, and a representative of the Wyoming Agricultural College placed hogs and sheep. One of the features of the week was the use by the Powell theatre of motion picture reels on the subject of live stock, one of which was obtained from the Extension Department of the International Harvester Company, and the others from the Department of Agriculture.

Miscellaneous work was performed during the remainder of the week. A meeting of the executive committee of the County Farm Bureau was attended at Cody where a talk was made on live stock and the committee asked to select a man to attend to collective stock marketing. It is likely such an officer will be named soon as someone who is qualified can be found.

During the week ending September 16, sixteen farm visits were made and forty-four requests for assistance were received.

Much interest in sheep is evident. Many farmers have expressed the intention of purchasing ewes if they are able to dispose of potatoes. A trip was made Saturday with Mr. Croft, a farmers living near Powell, to the Pearson Brothers ranch above Cody, where 7 purebred Rambouillet rams were selected for use in Mr. Croft's flock. Five judging demonstrations were conducted for the animal husbandry class of the Powell high school. This class is now studying horses. One day was given to securing the cooperation of farmers in 3 communities in poultry culling demonstrations to be

The first part of the report is devoted to a description of the work done during the year. It is divided into two main sections, the first of which deals with the work done in the laboratory and the second with the work done in the field. The first section is divided into three parts, the first of which deals with the work done in the laboratory, the second with the work done in the field, and the third with the work done in the laboratory. The second section is divided into two parts, the first of which deals with the work done in the field, and the second with the work done in the laboratory. The report is written in a clear and concise style, and is well illustrated with diagrams and photographs. It is a valuable contribution to the knowledge of the subject, and is highly recommended for reading by all those interested in the subject.

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Shoshone (continued).

conducted by an expert from the Wyoming Agricultural College during the week ending September 23. Miscellaneous live stock work took most of the remaining time.

Returns were received by two growers on 2 carloads of early potatoes sent to Kansas City. One sold at $72\frac{1}{2}$ cents and the other at $82\frac{1}{2}$ cents per cwt., freight being deducted but not commission. The price of butterfat at the Powell Creamery was 33 cents per pound.

G. A. Wright.

Sun River.

Most of the week ending September 16 was spent in working in the interest of the project fair which was held in Fairfield Friday and Saturday. Considerable work was also done in arranging a model farm for irrigation demonstrations at the fair. The farm was laid out with all of the common kinds of irrigation practices and with several different kinds of soil. Many seemed to be interested and the demonstrations were well attended. Models of farm implements needed in preparing land for the different types of irrigation were also made and displayed.

Ideal weather has prevailed during the week just ended and cropping is well under way. The crops are very good on most of the project and the exhibits which were shown at the fair would do credit to any district.

Eighty acres were laid out for irrigation and the demonstrating on the model farm has brought applications for help in great numbers which it will be impossible to fill.

M. B. Jensen.

Uncomahgre.

On Tuesday of the week ending September 9, a trip was made to buy a number of Jersey cows for a farmer on the project. A poultry demonstration in culling was given at the farm of Mr. Huckabay near Delta.

The live stock exhibits at the fair were below those of last year in number but the quality in general was very good. Jersey, Holstein, and milking Shorthorn cattle, and Duroc-Jersey hogs were the strongest entries. There were no sheep on the grounds and the horse show was practically nothing. This was the fourth stock show at Grand Junction for which this office has furnished the judge.

Friday, the final stock judging trip for this year was made with the club of Delta county and on Saturday the Montrose clubs were taken out. Several classes of live stock was judged each day and reasons were written. The Delta county clubs on the project attended 100 per cent except for one local leader and one girl who recently had one of her legs broken. About 40 of the Montrose county members attended.

H. A. Ireland

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WEEKLY BULLETIN

Of the Offices of

WESTERN IRRIGATION AGRICULTURE And DEMONSTRATIONS ON RECLAMATION PROJECTS

Vol. XXI.

September 23, 1922.

No. 15

Western Irrigation Agriculture

Prosser.

Harvesting of fruit and third-crop alfalfa was in full swing on the project during the week ending September 23. This hay crop seems to be curing slowly, due to the cool nights and heavy dews, but with another week of dry weather practically all of the third-crop alfalfa will be in the stack.

The State fair was held at Yakima during the week. This is conceded to be the best state fair ever held in Washington, in point of attendance, range and quality of exhibits, and financial returns. The live stock exhibit was especially good since some of the best herds and flocks in the United States were represented. It is estimated that the attendance for the week was approximately 65,000, and that the receipts were over \$30,000.

Station activities for the week were as follows: About 60 acres of third-crop alfalfa was cut and shocked. Fields A2 and C3 were irrigated, plowed and seeded to alfalfa and will be re-irrigated during the coming week. Borders on field E5 were irrigated with furrows. The water applied, together with the run-off, was measured and soil samples were collected before and after irrigation. Concrete work was completed on the new 175-ton silo and the entire structure will probably be completed next week.

C. C. Wright.

San Antonio.

During the two weeks period ending September 23 the maximum temperature recorded was 94, minimum 57, greatest daily range 33, and precipitation .88 inch. There were six clear days, three partly cloudy days, and five cloudy days. Some fields had become so dry and hard they could not be plowed. The recent precipitation has barely made it possible to resume plowing of these fields.

Work on the station has included cotton picking on rotation plats, and field C5; soil sampling and moisture determinations; cultivation of orchards; plowing rotation plats and portions of fields A3 and F3; hauling hay; chopping Johnson grass, and painting and repairing buildings.

All cotton opened on the rotation and tillage plats to date has been picked, the average yield being at the rate of 217 pounds seed cotton per acre. The quality is low, due to damage by boll weevil larvae and drought.

In the following table is given a summary of the data obtained relative to the yields of crib-dry corn secured in this season's varietal test. The varieties were planted in duplicate one-twentieth acre plats with the Laguna variety planted after each fourth variety as a check.

San Antonio (continued).

Table I.- Showing yields per acre of crib-dry corn harvested from variety test (duplicated one-twentieth acre plats). San Antonio Experiment Farm, 1922.

Variety.	Date first pollen	Yield per acre-ear corn			Average shelling per cent	Average yield shelled corn per acre.
		First plat	Second plat	Average two plats		
		Bushel	Bushel	Bushels		Bushels
Laguna	5/23	45.2	40.6	42.9	82.3	44.4
San Miguel	5/9	19.3	17.6	18.5	....	....
U. S. Selection 125 ...	5/11	28.7	26.3	27.5	81.1	27.8
Ludiwig	5/16	40.6	42.0	41.3	83.9	43.3
Brazos	5/22	46.9	45.5	46.2	82.4	47.6
Laguna	5/22	42.2	33.9	38.1	82.8	39.4
U. S. Selection 165 ...	5/19	46.8	41.0	43.9	81.6	44.6
Singleton Strawberry ..	5/23	35.6	36.0	35.8	78.9	35.3
Tuxpan	6/2	45.5	45.2	45.4	80.5	45.7
Arlington Prolific	5/18	43.9	42.5	43.2	83.0	44.8
Laguna	5/22	38.9	39.9	39.4	82.3	40.6
Orange County Prolific	5/18	32.7	31.1	31.9	82.0	32.6
Gerrick	5/25	44.6	43.2	43.9	81.1	43.7
U. S. Selection 233 ...	5/24	37.0	33.2	35.1	80.6	35.5
U. S. Selection 119 ...	5/19	37.6	41.3	39.5	80.7	39.9
Laguna	5/22	40.3	31.8	36.1	82.2	36.8
Horton	5/20	38.7	43.6	41.2	81.2	41.7
Chisholm	5/18	39.8	38.4	39.1	82.1	40.1
Surcropper	5/15	35.3	38.9	37.1	81.7	38.0
Ferguson Yellow Dent ..	5/18	43.6	41.3	42.5	83.1	44.2
Pioneer	5/16	37.9	41.3	39.6	82.3	40.8
Averages				38.5	81.8	40.3

Messrs. Ballard and Lytton, of the Office of Crop Acclimatization and Adaptation Investigations, left for Greenville, Texas, September 15.

Mr. H. H. Bennett, Inspector for the Office of Soil Survey Investigations, Bureau of Soils, U. S. Department of Agriculture, and Mr. W. J. Geib, Soil Surveyor for the Texas Agricultural Experiment Station, visited the station on September 18.

G. T. Ratliffe.

Scottsbluff.

The work for the week ending September 23 consisted of routine work. The plats that were to be fall plowed, were mowed and cleaned up and the following plats plowed: series I, plats 2 and 3; series III, plats 3, 9, 14, and 16; series IV, plats 2, 3, 9, and 17; series V, plats 14, 16, 17, and 18.

Scottsbluff (continued).

The final result of the pig feeding test is shown in the following table, the pigs being on test for 80 days:

Pig Feeding Test.

	<u>Alfalfa pasture</u>		<u>Dry lot.</u>	
	<u>Lot 1</u>	<u>Lot 2</u>	<u>Lot 3</u>	<u>Lot 4</u>
	Corn & Skimmilk	Corn	Corn & Skim milk	Corn
Ration				
Weight at beginning of test pounds	380	382	350	350
Weight at end of test do	1120	825	1184	446
Gain in weight do	740	443	834	96

J. A. Holden.

Umatilla.

The maximum temperature during the week ending September 23 was 91, minimum 39, and precipitation, none.

Monday and Tuesday was spent placing an exhibit at the Northwest Hay and Grain Show. Project farmers won first premiums on hullless barley and oats, and third and fourth premiums on alfalfa hay. The sweepstake wheat was a bushel of Kanred from Columbia, Montana. Their hay exhibits were not up to last year's standard but there was more grain of better quality than previously.

The corn in the rotations in fields C1 and D4 was cut and weighed for silage yields.

The following table gives the yields of the alfalfa varieties for the year. The exceptionally high yields may be partially accounted for by the varieties being located on a good piece of land easily irrigated. They are air-dry yields as samples were taken of the field-cured hay and moisture content determined.

F. L. Kent, Federal crop reporter for Oregon visited the station Saturday.

Yields of alfalfa varieties, Umatilla Experiment Farm, 1922.

Common - Black Hills.....	7.92	tons	per	acre	Liscomb.....	6.59	tons
Common - Local seed	7.32	"	"	"	Common - Dry		
Grimm	7.21	"	"	"	Land seed...	6.16	"
Common - Kansas.....	6.77	"	"	"	Cossack	6.14	"
Peruvian	6.72	"	"	"	Common -High		
Indian	5.26	"	"	"	Altitude....	5.79	"
Baltic	5.08	"	"	"			

H. K. Dean.

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Yuma.

Maximum temperatures which have ranged considerably above normal have been recorded daily for the two weeks ending September 23. A temperature of 114 was recorded on September 16. It has gone above 100 every day since September 10. The minimum temperature for the two weeks was 64, on September 22. The greatest daily range 46.

It is generally believed that this extension of summer weather has also lengthened the shedding period of cotton. Favorable prospects of a good crop on the project which were reported two months ago, have been materially reduced by the subsequent shedding of squares and young bolls. Insect damage to cotton by various plant bugs, most important of which are the squash or stink bug, are held accountable, along with the hot weather, for the poor condition of this year's cotton crop. These conditions prevail in all sections of the project and parts of the Imperial Valley, particularly in the Holtville district.

Ginning season opened two weeks ago. Pickers are being paid \$1.00 per cwt. Through the activities of organizers connected with Arizona Pima Cotton Growers Association of the Salt River Valley, approximately 10,000 acres of short cotton on the Yuma Project has been signed up recently. These contracts were drawn up according to the Sapiro plan for cooperative marketing association and are to be in effect for five years, 1921 to 1925, inclusive.

With only a small amount remaining of the second crop to be harvested, the alfalfa seed situation remains very discouraging to the growers. Prices still hold at 13 cents per pound with the bulk of the seed remaining in the growers hands. This price is quoted alike for Hairy Peruvian, Smooth Peruvian, and Arizona Common.

The breaks in the high line canal caused by the heavy rain on September 2, have been repaired. Water was out of the ditches for ten days.

Station work performed during the week consisted of plowing under cow-peas C12 to 17, cleaning ditches, general irrigating, cultivating, and cleaning up of grounds.

Messrs. Cook and Martin, of the Office of Crop Acclimatization and Adaptation Investigations, were station visitors September 8 to 11.

E. G. Noble.

Demonstrations on Reclamation Projects.Minidoka.

The week ending September 23 was spent in the interests of the Burley fair, which further demonstrated the feasibility of dairy farming on the project. The live stock displays show that the project has a good start in pure bred dairy cattle, swine, sheep, and poultry.

A short conference was held with county agent Barber, of Cassia county, and Mr. Denman, Smith-Hughes teacher at Burley, on the subject of the live stock needs of the average project farmer. It is planned to meet again in two weeks to formulate for publication a definite program of rotation of crops for project farmers.

J. T. Montgomery.

North Platte.

Two days of the week ending September 23 were spent in judging and giving livestock judging demonstrations at county fairs. Improvement in the quality of livestock is greatly needed in the Valley and farmers are interested in keeping in touch with improvements in type. The swine exhibit at the Morrill county fair was especially good. The hog population in the Valley is low and the prospects are that there will be a good demand for breeding stock in the spring.

A few more silos were filled this week and some farmers are even thinking of constructing silos after potato and beet harvest and filling them with shock corn. The fact that alfalfa is scarce and high priced helps to stimulate interest in silos. There is considerable interest at the present time in beet top silage. At the experiment farm a silo will be constructed and filled with beet tops and feeding tests will be made using both sheep and dairy cows to determine the value of beet top silage compared with corn silage.

The last of this week the dairy cattle were all turned onto sweet clover (Field E) that was seeded with barley in the spring. There is abundance of feed in the pasture and even though it has just been irrigated the cattle showed no signs of bloat.

In the pasture test to determine the value of sweet clover as compared with blue grass for milk production the eight cows produced on blue grass in two-week periods 9,498 pounds of milk, and in the same length of time while on sweet clover they produced 9,674 pounds.

D. H. Propps.

Sun River.

The forepart of the week ending September 23 was spent in and around Fairfield and Great Falls in straightening out matters pertaining to the fair at Fairfield and the one which will be held in Simms on the 6th and 7th. of October. Sunday, the orchard of Crabtree on the Fort Shaw division and the garden of Zimmerman at Simms were visited. Mr. Crabtree had asked for a visit and had various questions pertaining to orchading and to small fruits. Monday was spent in going over some of the exhibits which were at the project fair and preparing them for the State fair. A great deal of the material used for the fair at Fairfield was taken over to Simms to be used in decorating for the fair there. Tuesday ditches were laid out on 80 acres for Graves, the system being wild flooding. This field is one of those which will come under irrigation on the new division next year. Tuesday afternoon, a trip was made to Great Falls with Mr. Benjamin, irrigation manager, in order to be there the next day to confer with county agent McSpadden about exhibits for the state fair and plans for the fair at Simms; Mr. McSpadden having cooperated by furnishing decorating material for the project fair. Saturday was spent in the Salt Lake City office making out reports and going over plans for the yearly report with the agriculturist in charge.

M. B. Jensen.

W E E K L Y B U L L E T I N

Of the Offices of

WESTERN IRRIGATION AGRICULTURE And DEMONSTRATIONS ON RECLAMATION PROJECTS

Vol. XXI.

September 30, 1922.

No. 14

Western Irrigation Agriculture

Huntley.

Irrigated Rotations.

The third crop of hay was cut during the week ending September 30.

The corn plats to be hogged off in rotations 67 and 69 were fenced and the hogs turned in on September 28. Soy beans in the miscellaneous plats L-IV-28 were pulled.

Threshing of grains from the rotation plats was completed September 8. The average yield per acre of oats was 88.5 bushels; wheat, 27 bushels; and flax, 17.2 bushels.

J. W. Bowen.

Scottsbluff.

The average maximum temperature for the week ending September 30 was 77, with a maximum of 82 on the 28th and 29th; the average minimum 44, with a minimum of 40 on the 24th. Some frost has been reported, especially in the low lands along the river, but on the higher grounds there has been none at all and in some places the potato vines are still so green that digging is delayed. The beets and alfalfa are still making very good growth.

Water will be shut out of the laterals in the Interstate Canal on the morning of October 1. The water service this season has been excellent. There have been no interruptions and owing to the precipitation during the early part of the season very few crops suffered from lack of water. The precipitation for the growing season - April 1 to September 30 - has been a little above the average. During the first four months there was considerable excess, but through August and September there was practically no precipitation, what little there was coming in small scattered showers from which no benefit was derived. The following table shows the precipitation for the six months and the average for the years 1911 to 1921, respectively.

Year.	April	May	June	July	Aug.	Sept.	Total
1922.....	3.43	3.07	1.87	3.67	0.27	0.36	12.67
1911 to 1921	2.09	2.85	1.74	1.58	1.80	1.87	11.93

Notwithstanding the unusual amount of rainfall and the extreme heat of the summer there were very few hailstorms and the loss therefrom will be less than usual.

Volume 10, Part 1, 1911

CONTENTS

ORIGINAL ARTICLES

The Journal of the Royal Society of Medicine and the Association of Physicians of Great Britain and Ireland, Volume 10, Part 1, 1911, contains a series of original articles on various subjects, including the treatment of certain diseases, the anatomy of certain organs, and the physiology of certain functions. The articles are written by some of the leading authorities in their respective fields, and are of great value to the medical profession.

REVIEWS

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Author	Title	Page	Author	Title	Page	Author	Title	Page
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Scottsbluff (continued).

The week has been spent in harvesting the potato crop. All of the plats in Field K, with the exception of those in the alfalfa rotations, were dug with the results as shown in the following table:

Yields of potatoes, Scottsbluff Experiment Farm, 1922.

Series	Plat	Rotation	Yield per acre, bushels			Percent of total	
			No. 1.	Culls	Total	No. 1.	Culls
I.....	1	4	43.3	54.7	98.0	44	56
I.....	4	27	128.0	85.3	213.3	60	40
I.....	14	25	193.3	68.7	262.0	74	26
I.....	16	21	195.3	54.7	250.0	78	22
II.....	1	26	77.3	48.0	125.3	62	38
II.....	5	31	196.7	62.6	259.3	76	24
II.....	16	20	76.7	56.7	133.4	57	43
III.....	5	30	133.3	50.0	183.3	73	27
IV.....	16	24	101.3	60.0	161.3	63	37
Average			127.2	60.1	187.3	68	32

While the yields as shown above are very satisfactory the quality was poor. Digging will commence on the plats in the alfalfa rotations next week. Assistance was also given Mr. Werner in harvesting the potatoes grown under his supervision on the station.

Mr. W. W. Burr, Assistant Director of the Agricultural College at Lincoln, visited the station during the week.

J. A. Holden.

DEMONSTRATIONS ON RECLAMATION PROJECTS.Newlands.

Considerable time during the week ending September 30 was devoted to stimulating interest in the proposed herd testing association for this project. The interest shown by the dairymen has been very encouraging and it is expected that actual testing operations will begin October 1. During the week two short articles on the proposed herd testing association were contributed to the local paper. The local newspapers have been used freely in stimulating interest in the association.

An importation of 36 dairy cattle was made from Turlock, California, by a party coming to this place to locate. This office was instrumental in making arrangements for this importation. It is hoped that this will be the fore-runner of several other importations being made by parties who are interested in this project and who now live in the Turlock district where land values are too high for the growing of cattle feed.

Assistance was rendered in making plans for a new cow barn and new wooden hoop silo. This wooden hoop silo is the only one of its kind in this valley and its success will be carefully watched.

L. E. Cline.

North Platte.

A trip was made to North Platte during the week ending September 30 to select some Holstein bulls for farmers of the valley. Five or six bulls will be shipped to the experiment farm immediately and will be distributed from there. An effort will be made to place as many as possible in the next few weeks. Very good young bulls can be obtained at from \$100 to \$150. Quite a number of farmers who have dry land pastures want Shorthorn bulls. A few of these have also been located.

Prof. W. W. Burr of the Nebraska Agricultural College visited the experiment farm this week and drove over a portion of the project visiting farmers.

Potato and beet harvest started Monday. Potatoes are selling around 75 cents per cwt.

D. H. Propps.

Shoshone.

The week ending September 23 was given to work at Billings, Montana, superintending the boys' and girls' exhibits at the Midland Empire fair. This department, including all club exhibits, considerably exceeded in quality and extent that of last year or any other year, the agricultural exhibit being especially good. Two days were required to enter and place the displays and another to attend to the judging. It was a matter of general surprise that in spite of depressed times the fair as a whole was the best and the most largely attended one in the history of the fair association.

During the week ending September 30, ten farm visits were made and nineteen requests for assistance received.

The larger part of the week was given to work relating to poultry. Mr. W. H. McNees, Extension Poultryman for Wyoming, was on the project three days and six culling demonstrations were conducted on as many farms, including the Garland, Ralston, and Powell communities. One hundred and six adults, representing the largest poultry producers, attended and interest was marked.

Potato digging is in full swing. Beginning with October 2, most of the schools on the project will be dismissed for a week at the request of parents so that pupils may give assistance in the potato fields. Returns from very recent shipments have not been as good as before.

The price of butterfat at the creamery is 36 cents per pound.

G. A. Wright.

Uncompahgre.

The week ending September 23, with the exception of Saturday, was devoted to the Western Slope fair. The fair dates were September 19 to 22, but live stock began to come in on the 18th, especially club pigs. All entries were in by Tuesday night and the first year pig club class, which was much the biggest class of the show, was judged. Other live stock

Uncompahgre (continued).

classes were judged Wednesday, and a club stock judging contest was held that afternoon.

Cattle entries were lighter this year than last but hogs, horses, sheep and poultry were much stronger than ever before, in spite of the fact that premiums had been reduced 20 per cent from last year. There were 135 head of swine shown, of which 94 were Duroc-Jerseys, the rest being Poland-China and Spotted Polands. Of the 135 head, 100 were shown by pig club members. There were 40 entries in the first year club class, and 14 members failed to bring their pigs in, on account of the expense, or the fact that the pigs had not done as well as they should. A 6-months-old Poland China boar, belonging to William Faast, a first year club member, won first, junior and grand championships and two Poland China gilts won second in their classes in open competition.

Only 41 head of cattle were shown as compared with about double that number last year. Of this number, 25 were Holsteins, 4 were Jerseys, 5 were Guernseys, and 7 were Herefords. The decrease in the number of dairy cattle was largely due to the fact that entries of last year were above normal because of the offer of a cream separator for the best dairy cow, no such premium being offered this year. Beef cattle exhibits have always been from outside Montrose county and this year only one herd was represented. A calf club boy was the only exhibitor of beef cattle from Montrose county. His Hereford heifer won first and junior championship against the Sneffels Land and Cattle Company. Four Holstein calves were shown by calf club members. Fifty sheep were entered, most of these being purebred Rambouillet and Hampshires from two flocks. Eleven sheep were shown by sheep club members. The horse show was better than usual. There were 70 entries, some of which were duplicates, however. About 350 birds were exhibited in the poultry department, of which 20 pens were shown by poultry clubs.

Championships were awarded in each of the following clubs: Calf, Pig, Sheep, Poultry, Canning, Clothing, Corn, and Potato. A stock judging contest was held with 18 contestants and the highest three chosen as a team to compete at the State fair. Contests were also held in canning, sewing and poultry demonstrations to select teams for the State fair. Nineteen club members, including 10 on demonstration teams and 9 champions, besides 2 Chaperons were taken to the State fair from Montrose county. One member of the Delta county stock judging team was from the Peach Valley pig club on the Uncompahgre Project.

The character of the Western Slope fair this year is a strong argument in favor of having a paid, year-around manager.

The week ending September 30 was spent in attendance at the State fair and Pueblo and enroute to and from that place. County Agent King and the agriculturist drove from Montrose Colorado with 8 members of demonstration teams, 11 others and 2 chaperons going by train. At the fair assistance was given at the club camp throughout the week and with the stock judging contest. Four hundred club members were enrolled at the camp, the highest enrollment since the camp was established. Forty-nine demonstrations of various kinds were held in addition to the stock judging contest. In the various contests the Montrose county canning team won first place among 10

Uncompahgre (continued).

teams, and was awarded sweepstakes over all teams of any kinds. The Montrose sewing team won second among nine teams. The poultry team won third place among 5 competitors, and the stock judging team was fourth among 15, one member of this team taking first place in dairy cattle. Delta county stock judging team won fifth place. The winnings of the Montrose teams attracted much favorable comment at Montrose and local clubs have invited all members attending the State fair to attend meetings of the clubs.

Livestock exhibits at Pueblo were strong; swine and beef cattle being the principal features. No exhibit from the Western Slope ~~were~~ shown.

H. A. Ireland.

1. The first part of the report is devoted to a general survey of the situation in the country. It is followed by a detailed account of the work done during the year.

2. The second part of the report is devoted to a detailed account of the work done during the year. It is followed by a detailed account of the work done during the year.

3. The third part of the report is devoted to a detailed account of the work done during the year. It is followed by a detailed account of the work done during the year.

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6. The sixth part of the report is devoted to a detailed account of the work done during the year. It is followed by a detailed account of the work done during the year.

7. The seventh part of the report is devoted to a detailed account of the work done during the year. It is followed by a detailed account of the work done during the year.

8. The eighth part of the report is devoted to a detailed account of the work done during the year. It is followed by a detailed account of the work done during the year.

9. The ninth part of the report is devoted to a detailed account of the work done during the year. It is followed by a detailed account of the work done during the year.

10. The tenth part of the report is devoted to a detailed account of the work done during the year. It is followed by a detailed account of the work done during the year.

WEEKLY BULLETIN

Of the Offices of

WESTERN IRRIGATION AGRICULTURE And DEMONSTRATIONS ON RECLAMATION PROJECTS.

Vol. XXI.

October 7, 1922.

No. 15

Western Irrigation Agriculture.

Scottsbluff.

During the week ending October 7, the first frost of the season occurred on the morning of the sixth, followed by a killing frost that night. All crops were fairly matured throughout the valley. Probably 75 per cent of the potato crop has been harvested and a great portion of it is going into storage. No sales are being made at all as buyers are only offering 60 cents to 65 cents for Bliss Triumph No. 1.

The potatoes in the alfalfa rotations were harvested during the week with the following yields:

Series	Plat	Rotation	Yield per acre, bushels			Per cent of total	
			No. 1.	Culls	Total	No. 1.	Culls
II	8	61	246.0	68.6	314.6	78	22
III	8	60	271.0	55.1	326.1	83	17
V	8	64	256.4	57.6	314.0	82	18
II	14	40	218.0	65.3	283.3	77	23
IV	14	44	189.0	79.7	268.7	70	30
O	14	7-year	265.3	53.3	318.6	83	17
Average			240.9	63.3	304.2	79	21

Work was started this week on another silo. It is the intention to fill this silo with beet top silage in order to test the value of beet top silage compared with tops fed dry and also with corn silage. The claim has been made that beet top silage has four times the efficiency as the dried tops.

Work was begun this week on additional quarters for the hogs as the herd has grown beyond the facilities for winter housing.

J. A. Holden.

Prosser.

The maximum temperature for the week ending October 7 was 75, minimum 39, and precipitation .74 inch.

About 25 acres of newly seeded alfalfa was irrigated during the week. This completes the regular irrigation work for this season and the water will be used for fall irrigation of old alfalfa during the remainder of the time it runs in the canal.

Table 1

Summary of Results

Continued

The following table shows the results of the work done during the year 1914-1915. The work was done in the field and in the laboratory. The results are given in the following table. The work was done in the field and in the laboratory. The results are given in the following table. The work was done in the field and in the laboratory. The results are given in the following table.

No.	Name	Area		Area		No.	Name
		Acres	Sq. Miles	Acres	Sq. Miles		
1	1	...
2	2	...
3	3	...
4	4	...
5	5	...
6	6	...
7	7	...
8	8	...
9	9	...
10	10	...

The following table shows the results of the work done during the year 1914-1915. The work was done in the field and in the laboratory. The results are given in the following table. The work was done in the field and in the laboratory. The results are given in the following table.

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Prosser (continued).

Light showers interferred with stacking of third crop alfalfa on the station, leaving about 15 acres still in the shock.

The new silo is completed and preparations are being made to start a crew with the corn binder and silage cutter immediately. The station expects to harvest about 450 tons of corn silage this year.

Samples of underground water were gathered from various places on the project during the week.

C. C. Wright.

Yuma.

The maximum temperature for the week ending October 7 was 102, minimum 50, greatest daily range 47, and precipitation none.

The second crop of alfalfa seed is about all harvested. Prices for recleaned seed still hold at 13 cents. Nearly all the recleaning and warehouse establishments are still stocked up with seed that is being held, only a moderate amount being shipped out of the valley from day to day. It is believed that there will be a considerable carry-over of alfalfa seed for the season.

Cotton picking and ginning continues uninterrupted. The injury to this year's cotton crop by the various plant bugs as well as by the excessive temperatures during September has reduced the grade of the cotton as compared with previous years. These two factors have caused an abnormal amount of prematurely opened bolls. Local prices for lint cotton have ranged from 19 cents to 21 cents. Cotton seed at the gin is bringing \$23.00 per ton. Ginning charges are 30 cents per cwt. seed cotton, with \$1.50 for bagging and ties.

Station work performed during the week consisted of plowing under cow-peas, C1 to C5, D1 to D4; plowing C-30, 31, D 27-28; harvesting soy beans on the plat variation test, C-32 to 35; harvesting grain sorghums, C-20 and C-25; repairing stock pasture fence; general irrigating and cultivating.

Mr. Clyde Tandy, of Brownsville, Texas, was here on the project looking up a supply of good Durango seed, and visited the station on October 5.

E. G. Noble

Demonstrations on Reclamation Projects.Newlands.

During the week ending October 7 the major part of the time was spent in securing members for the Newlands project herd testing association. In this connection, two articles were contributed to the local papers with the idea of stimulating interest in the association. One meeting also was held for this purpose.

The attitude of the dairymen toward the testing association has been very encouraging. Thirty-five members, with six hundred cows, have joined the association so far and the prospects have so far only been half canvassed. Practically every dairyman approached on the subject has readily joined.

Newlands (continued).

The entire month of October will be devoted to this subject of herd testing association. One-fourth of the project is being worked each week by the testor and his helper, who is able to put in two days at taking samples. By the end of the month the entire project will be canvassed, and all of the herds should be tested.

The association will be organized and officers selected by November 1, when the second month testing will commence. During the interval the management of the association is being taken care of by this office.

L. E. Cline.

North Platte.

The first part of the week ending October 7 was spent in calling on farmers who want dairy bulls. While most farmers are busy harvesting potatoes and beets, they are beginning to think about the bull they are going to need this winter. We have a list of the purebred bulls that are for sale in the valley and have arranged to furnish others when the local supply is exhausted. As is usually the case, it takes the farmers a little while to make up their minds as to just what they want to do, but prospects are good for placing quite a number of bulls this fall.

As the price of butterfat advances there is a noticeable increase in interest in cows. There are a few cows for sale in the valley and at the same time there is a good demand for cows that will be in milk this fall and winter. The demand is supplied locally as nearly as possible.

A killing frost the last of the week made necessary the changing of some of the livestock from pastures to winter quarters. Alfalfa is comparatively scarce and high-priced. Quite a few beet tops will be put in silos.

D. H. Propps.

Shoshone.

During the week ending October 7, 15 farm visits were made and 31 requests for assistance were received.

It was estimated at the end of the week that almost two-third of the potato crop was out of the ground, of which 200 cars had been shipped and the remainder has been placed in cellars. Many fields were still too green to be dug. The cash buyers offered 50 cents per cwt. for the best quality.

Assistance was given a local photographer in locating farms where desirable pictures of live stock and crops might be taken for use in the Shoshone edition of the Billings Gazette. An article on dairying was also written for the same purpose, and another was prepared for the local papers.

Milk samples were collected from 3 herds in the Frannie community and the testing of the same was done. Two poultry culling demonstrations were conducted, one near Garland and the other near Powell.

Some alfalfa hay is being sold to stockmen at \$8.00 in the stack.

G. A. Wright.

Uncomoghre.

Most of the week ending October 7 was spent in the office working on reports etc., Fair records had to be checked with secretary Asbury and club records had to be graded with Mr. King. Twenty office callers were received.

Four flocks of poultry were culled, totaling 205 hens from which 124 were culled, or 60 per cent. One of these flocks were the worst ever examined. Of forty hens, not more than five could be classed as anything but worthless as producers. The owner expressed his intention of disposing of the entire bunch and buying others.

Dr. Stout, of the Bureau of Animal Industry, visited the office. He has been on the tuberculin test work on the Western Slope and reported that all herds signed up in Montrose and Delta counties have been tested. A shipment of reactors was made to Grand Junction where they were to be slaughtered under federal supervision.

H. A. Ireland.

1. The first part of the paper is devoted to a general discussion of the problem of the origin of life. It is shown that the problem is one of the most important and interesting in the history of science.

2. The second part of the paper is devoted to a detailed discussion of the various theories of the origin of life. It is shown that the most plausible theory is that of the spontaneous generation of life from non-living matter.

3. The third part of the paper is devoted to a discussion of the evidence in favor of the spontaneous generation of life. It is shown that the evidence is very strong and that the spontaneous generation of life is a fact.

4. The fourth part of the paper is devoted to a discussion of the various objections to the spontaneous generation of life. It is shown that the objections are not valid and that the spontaneous generation of life is a fact.

5. The fifth part of the paper is devoted to a discussion of the various theories of the origin of life. It is shown that the most plausible theory is that of the spontaneous generation of life from non-living matter.

WEEKLY BULLETIN

Of the Offices of

WESTERN IRRIGATION AGRICULTURE And DEMONSTRATIONS ON RECLAMATION PROJECTS.

Vol. XXI.

October 14, 1922.

No. 16

Western Irrigation Agriculture.

Scottsbluff.

The average maximum temperature for the week ending October 14 was 66, with a maximum of 76 on the 9th. and 11th; the average minimum was 29, with a minimum of 23 on the 8th.

Harvesting of the fourth crop of alfalfa was begun this week. Plats II and III in field C were fenced and the sheep will be turned in to clean up the corn and sweet clover. Work of harvesting the beets was begun on the 10th.

Mr. Werner, of the College of Agriculture, has completed his work for the season on the farm.

The Great Western Sugar Company has announced the final payment due beet growers who took the sliding scale in the 1921 contracts. This payment amounted to 15.72 cents per ton and will be payable October 15.

J. A. Holden.

Prosser.

Meteorological data recorded during the week ending October 14 were as follows: maximum temperature 79, minimum 38, and precipitation, none. Fall weather up to the present date has been ideal for harvesting and the project farmers are making good progress gathering their fruit and other crops.

Station activities for the period are as follows: stacking of third crop alfalfa was completed Monday, the average yield estimated at 1.50 tons per acre. This crop yielded a little lower than the second cutting. Corn was cut on field B1, 2, 3; C4, and D5, yielding about 12 tons per acre. One silo was filled. It will not be possible to put all the corn in the two silos hence it is planned to hog-off the corn remaining in the field.

Soil moisture studies during the week consisted of a test planned to ascertain the rate of percolation and the time it takes after irrigation for the moisture in the soil to reach an equilibrium condition.

Superintendent Bean has been buying sheep during the week at different shipping points on the project, part of which are to be used in experimental feeding at the station this winter.

C. C. Wright.

Demonstrations on Reclamation Projects.Newlands.

The principal effort during the week ending October 14 has been devoted to the herd testing association which is being promoted locally. The hearty cooperation of the farmers is being had in organizing this association. The total number of cows entered up to the end of the week was 915. All of the dairymen who are considered good prospects have not yet been canvassed, and it seems almost certain now that the membership of 1200 cows will be entered in the testing association.

A farmers meeting was held during the week in the interests of the herd testing association.

Considerable time has been used for the itinerary of the herd tester in order that he may be able to take care of the large number of herds entered in the association.

L. E. Cline.

North Platte.

During the week ending October 14 there was some alarm in the east end of the project concerning hog cholera. The first of the week a request came to visit herds but on examination no symptoms of cholera were found. A few hogs have died in the last few weeks but the trouble probably originated from the feeding of improper rations. Other swine troubles that have been reported are bunches resulting from careless castration, rheumatism, and thumps in pigs.

Farmers who filled silos are beginning to open them now and several requests have come for information in regard to feeding silage. Most of the corn that was put into silos was exceptionally good and the ensilage contains a great deal of grain.

Since there is considerable interest in beet top silage the experiment farm is constructing another pit silo to be filled with tops and feeding tests will be made to determine the relative feeding value of this kind of silage. Some of the farmers this year are mixing tops with corn fodder in the silage.

D. H. Propps.

Shoshone.

During the week ending October 14, 25 farm visits were made and 23 requests for assistance were received.

Two poultry culling demonstrations were conducted; milk samples from 2 herds tested; 2 men were given assistance in working out rotations; the usual work on milk sheets was done, and 15 club members were visited and given assistance in feeding, record keeping, and story writing.

The potato harvest is still taxing the labor resources of the project. The manager of the Powell creamery states that cream receipts have fallen off noticeably as a result of increased consumption of dairy products on the farm. No doubt, there has also been a decrease in production due to less attention being given cows during the potato digging season.

THE UNIVERSITY OF CHICAGO

1900

THE UNIVERSITY OF CHICAGO
OFFICE OF THE DEAN
CHICAGO, ILL.
JANUARY 10, 1900
TO THE PRESIDENT OF THE UNIVERSITY
FROM THE DEAN
SIR:
I have the honor to acknowledge the receipt of your letter of the 7th inst. and in reply to inform you that the same has been forwarded to the proper authorities for their consideration. I am, Sir, very respectfully,
Yours very truly,
[Signature]

Very truly yours,

THE UNIVERSITY OF CHICAGO
OFFICE OF THE DEAN
CHICAGO, ILL.
JANUARY 10, 1900
TO THE PRESIDENT OF THE UNIVERSITY
FROM THE DEAN
SIR:
I have the honor to acknowledge the receipt of your letter of the 7th inst. and in reply to inform you that the same has been forwarded to the proper authorities for their consideration. I am, Sir, very respectfully,
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[Signature]

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OFFICE OF THE DEAN
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JANUARY 10, 1900
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Yours very truly,
[Signature]

Shoshone (continued).

The Wyoming leader of county agents was an office visitor on Monday; also two stock-hog buyers from Basin, Wyoming were visitors during the week. Farmers having stock hogs were not ready to dispose of them at 6 cents per pound, the price offered.

The price of butterfat remained at 37 cents per pound throughout the week.

G. A. Wright.

Uncompahgre.

During the week ending October 14, a trip was made with Mr. Fetz to Cedaredge to see a registered Jersey bull offered for sale. This is one of several inquiries for Jerseys answered recently, showing that there is still some interest in that breed although Holsteins have been much more in demand.

Several requests for poultry culling were received and four flocks, including 313 hens, were culled. One hundred and three, or 32 per cent, were rejected. These were marked for future disposal as the present market is low.

Mr. Cooley arrived in Montrose Tuesday and remained until Friday night. A trip was made with him to Hotchkiss to see the club leader of Delta county and a visit was also made to the office of project manager Foster. Three newly seeded pastures were inspected and calls were made on 2 pig club members.

Milk tests were run on two herds. Seven office callers were received.

H. A. Ireland.

THE HISTORY OF THE

REIGN OF

CHARLES THE FIRST

BY

JOHN BURNET

IN TWO VOLUMES

W E E K L Y B U L L E T I N
Of the Offices of
WESTERN IRRIGATION AGRICULTURE
And
DEMONSTRATIONS ON RECLAMATION PROJECTS

Vol. XXI.

October 21, 1922.

No. 17

Western Irrigation Agriculture.

Huntley.

The maximum temperature for the week ending October 21 was 79, minimum 29, and precipitation .11 inch.

Favorable weather conditions prevailed during the past month and the harvest of beets and other late crops is well advanced. The yield of beets throughout the district will probably be about 11 tons per acre, which is somewhat higher than the average of former years.

While yield of potatoes are good the price is low, being 50 cents and 60 cents per cwt., with only a small part of the crop moving at these prices. The seasons hay crop was fair, with production on the project slightly more than sufficient for local requirements. In other parts of the valley the crop is short and the price locally is starting at \$8.00 to \$12.00 per ton farm value.

Station work during the week consisted of plowing and husking corn.

Dan Hansen.

Newlands.

For the period October 9 to October 23, Mr. Knight reports as follows:

"The last general irrigation of the season was given on October 14 and 15. October 16, the water was shut off at the dam. As soon as the plats had dried sufficiently the horses were turned out on their fall pasture of fourth crop alfalfa.

"The beet crop was the last to be harvested. The growth was somewhat spotted due to the lack of uniformity in the soil. Well formed beets matured where the soil was good, and in other places having alkali or hard pan sub soil, the final product was a small, fibrous beet.

"The following table gives the yield of the various plats that were planted to beets:

Plat.	Area, acre	Actual yield, pounds.	Yield per acre, pounds.
D-6 .....	.52	5390	10366
E-5 .....	.57	2320	4070
E-6 .....	.54	2720	5037

Newlands (continued).

"The garden has been disked. and is now receiving a dressing of manure. Arrangements have been made with the Reclamation Service whereby the station is allowed the use of the manure from the corrals. Enough will be handled for all the rotations, pasture, garden, and all other plats that receive an annual application. It is then hoped to obtain enough to try its effect on some of the impervious soils found on the Y series.

"The mining of the alum is progressing fairly well. To date a carload has been mined and sacked. It remains now to haul it a distance of about four miles to a loading station on the Southern Pacific railroad. As soon as the hauling has been completed, a carload will be shipped to Fallon. It will then be hauled to the station and immediately applied to various plats of impervious alkaline soils."

E. W. Knight.

Scottsbluff.

The average maximum temperature for the week ending October 21 was 64, with a maximum of 74 on the 20th; the average minimum was 28, with a minimum of 12 on the 17th. Light snow flurries were reported at several places throughout the valley on the 16th.

The work at the farm has consisted of harvesting beets; completing some fencing on pastures; and work on the new silo, which is about 60 per cent complete.

The stock is being moved in from the pastures and preparations are being made for winter feeding.

The fall has been exceptionally favorable for beet harvest, no time having been lost from bad weather. Over 60 per cent of the beets have been harvested. The freeze on the night of the 16th damaged potatoes to some extent, as nearly all fields had a few frozen.

The following table gives the yields of beets in field K:

Scottsbluff (continued).

Table I.- Yield of sugar beets in irrigated rotations, Scottsbluff Experiment Farm, 1922.

Series.	Plat	Rotation	Yield, tons per acre
I.....	13	23	19.96
I.....	17	21	18.80
II.....	4	31	19.70
II.....	10	61	22.22
II.....	15	40	22.24
II.....	17	20	11.20
II.....	18	2	6.73
III.....	2	78	10.73
III.....	4	30	12.52
III.....	10	60	18.76
III.....	15	42	19.61
III.....	17	22	11.38
IV.....	4	32	12.11
IV.....	10	62	17.33
V.....	2	...	20.32
V.....	3	...	12.13
V.....	9	...	18.43
O ¹	15	71	19.66
O.....	16	71	17.93
Average yield			16.38
Average for plats:			
Alfalfa			19.34
Alfalfa and manure			20.07
Manured			19.49
No manure			10.79
Sweet clover-pastured			20.32

¹ Seven year rotation.

J. A. Holden.

Demonstrations on Reclamation Projects.Minidoka.

During the week ending October 14, two instances of over-feeding of wheat and a case of impaction in a cow came to the attention of this office.

Mr. Kusky, teacher of agriculture in the Paul schools, reports that some of the boys would like to join live stock clubs, particularly dairy clubs.

Two days were spent visiting herds and flocks in Cassia county upon which pasture records and production records were being kept. Data will not be available for a report of very great accuracy this year.

Minidoka (continued).

Two days of the week ending October 21 were spent with Dr. McCoy in visiting and inspecting herds of cows which were suspected of being infected with contagious abortion, and inspection of poultry flocks in which tuberculosis existed. No diagnosis of contagious abortion was made, it being the opinion of the veterinarian that the cases were sporadic.

Poultry, especially on the south side of the project, is seriously diseased. It may be necessary to destroy some flocks. However, some attempts to dispose of the infected animals and cleaning up the premises will be made in the hope of saving part of the flocks.

A conference was held with Dr. W. A. Sullivan concerning a project-wide test of all cattle for tuberculosis. Dr. Sullivan believes that it will be possible to put in federal veterinarians to test the cattle on the project and establish a free area which would be quarantined against outside untested cattle.

It seems to be a disposition on the part of the farmers to go more largely into dairying and it is hoped to safeguard the purchases and importations of cattle onto the project by cleaning up the home territory first. Such a clean-up could be made now at a great deal less expense than later when the animal population is increased.

Farmers on the project are very discouraged. The area planted to potatoes has been abnormal. The south side of the project practically doubled last year's crop. Just now the price offered the farmers is 35 to 40 cents per cwt. for Round Whites, and about 60 cents per cwt. for Netted Gems. A considerable number of farmers claim they will be obliged to give up their farms. Farmers who are milking cows and maintaining flocks of poultry are doing well.

One farmer has received over \$1300 from a flock of sheep maintained on a 20-acre pasture with no extra feed, which is considered a good record for a grade flock. At the close of the year we will have the exact figures on this flock.

J. T. Montgomery.

North Platte.

The greater part of the week ending October 21 was spent on the bull campaign. Breeders of purebred Holstein and Jerseys in the Valley were visited and asked to exchange young pure bred bulls for grade or scrub bulls or for females of any kind. Breeders without exception were willing to do that in order to get more good bulls in service in the valley. They will sell the grades or scrubs on the market and accept what they bring as payment for the young purebred. This plan should make it possible to get a good pure bred bull into the hands of some farmers who otherwise could not buy one. A story in the local papers this week should bring a number of inquiries.

We now have bulls on hand to sell to farmers, either individually or cooperatively. We have young bulls to exchange for scrubs or grades and a limited number to loan to farmers who will keep herd and production records. As soon as beet harvest is over the campaign will be vigorously pushed.

D. H. Propps.

Shoshone.

During the week ending October 21, thirteen farm visits were made and 23 requests for assistance were received.

Over a considerable part of the project farmers are finding that grasshopper eggs have been deposited in abundance, and many are seeking information about the measures that may be taken for their destruction. The advisability of an egg destroying campaign is under consideration.

Freezing weather occurred several times during the week. The portion of the crop still in the ground was damaged to a considerable extent. In some fields the damage was so great that the potatoes will be left in the ground.

As a consequence of competition between live stock feeders from Montana and some sections of Wyoming and the Peters Milling Co., \$13.00 per ton is being offered for hay on board cars at Powell.

Three men were assisted in the selection of aged ewes; three were shown how to determine the presence of alfalfa inoculation; and a meeting of the sheep club was conducted to complete instructions as to the writing of stories. Other work consisted of milk testing; furnishing information about feeding; permanent pastures, and writing an article relating to dairying for the project papers.

G. A. Wright.

WEEKLY BULLETIN

Of the Offices of

WESTERN IRRIGATION AGRICULTURE And DEMONSTRATIONS ON RECLAMATION PROJECTS

Vol. XXI.

October 28, 1922.

No. 18

Western Irrigation Agriculture.

Huntley.

Irrigated Rotations.

During the two weeks ending October 14, the harvesting of the third crop of hay, the potatoes, sugar beets and corn was completed. The average yield per acre of alfalfa hay for the season was 5.20 tons.

The harvesting of sugar beets was completed October 12. The average yield per acre was 13.40 tons. The yield per plat and per acre is given in the following table:

Table I.- Yields of sugar beets, irrigated rotations, Huntley
Experiment Farm, 1922.

Plat number.	Rotation	Yield per plat, pounds.	Yield per acre, tons.
K-II-2	67 E	8843	17.69
K-III-3	61 E	9271	18.54
-8	60 E	7524	15.05
-14	31 B	7633	15.27
K-IV- 2	40 D	6233	12.47
- 8	42 D	5089	10.18
-16	30 B	5673	11.35
-19	32 B	6900	13.80
K- V- 4	18 B	4722	9.44
- 6	20 B	6518	13.04
- 8	22 B	5593	11.19
-14	21 B	8173	16.35
-16	23 B	7818	15.64
-22	2 a	5527	11.05
L-IV- 3	34 B	6081	12.16
- 5	2 a	3919	7.84
- 7	35 B	7484	14.97
-13	46 A	6831	13.66
-16	64 E	7994	14.99

Huntley (continued).

Potatoes were harvested October 5 to 7. The average yield per acre was 191.4 bushels. The following table gives the yield per plat and per acre, and per cent culls:

Table II.- Yields of Potatoes, Irrigated Rotations, Huntley Experiment Farm, 1922.

Plat Number	Rotation Number	Yield per plat, pounds.	Yield per acre, bushels.	Per cent culls.
K-III-6	61 C	4190	279.3	16.0
-12	60 C	3180	212.0	17.9
-15	31 C	1930	128.7	28.0
-IV - 1	40 C	4085	272.3	19.6
- 6	25 A	4130	275.3	16.9
-11	44 C	3070	204.7	19.5
-17	30 C	2385	159.0	17.6
-21	4 A	2070	138.0	20.3
V - 5	20 A	1690	112.7	10.6
- 9	24 A	2545	169.7	10.4
-11	26 A	2040	136.0	16.9
-13	21 A	1890	126.0	26.4
-20	27 A	1070	71.3	33.6
L-IV- 4	34 A	3550	236.7	11.8
- 8	35 A	4250	283.3	16.0
- 9	4 A	2490	166.0	15.4
-17	64 D	4230	282.0	10.6

The yields of corn per acre and plat are shown in the following table:

Plat Number	Rotation Number	Yield per plat		Yield per acre	
		Corn	Stover	Corn	Stover
		Pounds	Pounds	Bushels	Pounds
K-IV-20	32 C	876	880	47.3	3520
-23	6 A	570	610	30.9	2410
V- 1	16 A	780	760	42.1	3040
-12	26 B	970	1060	51.3	4240
L-IV-21	6 A	735	910	39.7	3640

The corn in plats K-II-6, Rotation 67 and L-IV-23 and 24, Rotation 69, were estimated but the corn is not yet dry enough to give an accurate estimated yield.

The average yield per acre of corn was 42.3 bushels, figuring 74 pounds per bushel.

The soybeans in the miscellaneous plat, L-IV-28 were threshed October 25. The yields per plat and per acre are given in the following table:

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TABLE I.—Analysis of the Blood of Patients with Various Diseases
GIVEN 1914

Case No.	Sex	Age	Diagnosis	Hemoglobin (Gm.)	Red Blood Cells (Million per cmm.)	White Blood Cells (Million per cmm.)	Remarks
1	M	45	Chronic anemia	1.5	4.5	10,000	Chronic anemia
2	F	35	Chronic anemia	1.2	4.0	12,000	Chronic anemia
3	M	50	Chronic anemia	1.0	3.5	15,000	Chronic anemia
4	F	40	Chronic anemia	1.1	3.8	11,000	Chronic anemia
5	M	30	Chronic anemia	1.3	4.2	9,000	Chronic anemia
6	F	25	Chronic anemia	1.4	4.3	8,000	Chronic anemia
7	M	40	Chronic anemia	1.6	4.6	7,000	Chronic anemia
8	F	30	Chronic anemia	1.7	4.7	6,000	Chronic anemia
9	M	20	Chronic anemia	1.8	4.8	5,000	Chronic anemia
10	F	15	Chronic anemia	1.9	4.9	4,000	Chronic anemia
11	M	10	Chronic anemia	2.0	5.0	3,000	Chronic anemia
12	F	5	Chronic anemia	2.1	5.1	2,000	Chronic anemia
13	M	40	Chronic anemia	2.2	5.2	1,000	Chronic anemia
14	F	30	Chronic anemia	2.3	5.3	1,000	Chronic anemia
15	M	20	Chronic anemia	2.4	5.4	1,000	Chronic anemia
16	F	15	Chronic anemia	2.5	5.5	1,000	Chronic anemia
17	M	10	Chronic anemia	2.6	5.6	1,000	Chronic anemia
18	F	5	Chronic anemia	2.7	5.7	1,000	Chronic anemia
19	M	40	Chronic anemia	2.8	5.8	1,000	Chronic anemia
20	F	30	Chronic anemia	2.9	5.9	1,000	Chronic anemia

NOTE: The above table shows the results of the analysis of the blood of patients with various diseases. The figures are given in grams per 100 ccm. of blood.

Case No.	Sex	Age	Diagnosis	Hemoglobin (Gm.)	Red Blood Cells (Million per cmm.)	White Blood Cells (Million per cmm.)	Remarks
21	M	45	Chronic anemia	1.5	4.5	10,000	Chronic anemia
22	F	35	Chronic anemia	1.2	4.0	12,000	Chronic anemia
23	M	50	Chronic anemia	1.0	3.5	15,000	Chronic anemia
24	F	40	Chronic anemia	1.1	3.8	11,000	Chronic anemia
25	M	30	Chronic anemia	1.3	4.2	9,000	Chronic anemia
26	F	25	Chronic anemia	1.4	4.3	8,000	Chronic anemia
27	M	40	Chronic anemia	1.6	4.6	7,000	Chronic anemia
28	F	30	Chronic anemia	1.7	4.7	6,000	Chronic anemia
29	M	20	Chronic anemia	1.8	4.8	5,000	Chronic anemia
30	F	15	Chronic anemia	1.9	4.9	4,000	Chronic anemia

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Huntley (continued).

Yields of soybeans, Irrigated rotations, Huntley Experiment
Farm, 1922.

Plat No.	Variety.	Yield per plat, pounds.	Yield per acre, bushels
L-IV-28	Manchu	68	13.6
	Mandrin	74	14.6
	Manchuria	76	15.2

John Bowen.

Prosser.

For the two-week period ending October 28 activities at the station were as follows: An additional 18 or 20 tons of corn were put into the two silos each silo having settled about 8 feet since the first filling. There is still one field of corn standing. This field is being fenced with hog-wire and about 50 hogs will be turned in as soon as the fencing is completed.

Plans were made and materials purchased for a 16' x 36' cow shed to be used as a dairy barn temporarily or until the regular permanent dairy barn is erected. The construction of the shed is now in progress.

Eight hundred and sixty-eight cut-back lambs were bought at Ellensburg, Washington, and shipped to the station on October 20. These lambs are being kept on sweet clover, ground corn, and alfalfa pasture together with small feeds of alfalfa hay. Experimental feeding will begin as soon as the feed lots are ready.

Water was shut off from the main canal under the Prosser pump on October 20. The total amount of water delivered to the station, as measured over weirs by automatic registers, during the present season is being computed. A total of 372.31 acre-feet of water was taken through Delivery No. 1, which serves approximately 119 acres.

C. C. Wright.

Scottsbluff.

The average maximum temperature for the week ending October 28 was 71, with a maximum of 82 on the 26th; the average minimum was 31, with a minimum of 23 on the 23rd.

The silo has been completed and will be filled during the coming week. Work has been continued on the hog house.

The potatoes in the alum, sulphur and lime treated plats were harvested during the week. The beet harvest in the valley will be practically completed by the end of the month.

J. A. Holden.

Yuma.

The maximum temperature for the week ending October 28 was 94, minimum 44, greatest daily range 49, precipitation 0. Weather conditions continue to be very favorable for harvesting the summer crops and for planting alfalfa and winter grains.

The alfalfa hay and seed market is much stronger than at any previous time this year. Baled hay, f.o.b. Yuma, is bringing \$18 to \$20 per ton; alfalfa seed is moving at 15-1/2 cents to 16-1/2 cents.

Cotton prices have advanced steadily. Lint is now selling for 22 cents to 24 cents with cotton seed at \$25.00 per ton.

Station work performed during the week consisted of harvesting grain sorghums, B-19 to B-28; harvesting cowpeas, D-18 to D-26; plowing plat variation lands, C-32 to C-35; general irrigating, cultivating and hoeing.

Messrs. O. F. Cook and H. C. McKeever, of the Cotton Office, were station visitors October 19 and 22. Mr. Irwin G. Beadle, representing the American Agricultural Chemical Company of Los Angeles; Mr. Hamilton, the new county agent of Yuma county; Mr. Frank Todd, Assistant State Entomologist; and Mr. George Hill, of the Yuma Mesa, were station visitors on October 26.

E. G. Noble.

Demonstrations on Reclamation Projects.North Platte.

Most of the week ending October 28 was spent in calling on farmers and getting acquainted with those who are milking cows. As the price of butter-fat advances there seems to be more inclination to milk. On the whole farmers are realizing more and more the necessity of including cows in their farm plans. Some attention was paid to exchange of dairy stock but most of the time was devoted to looking up prospects for placing bulls.

Farmers are already beginning to make plans to handle more hogs next year. Gilts of good quality are not very plentiful in the valley, but those on hand will be bred and others will be shipped in. Very little disease among hogs has been reported.

Several requests have been made for school house meetings during the winter. The latter part of the week old lantern slides and charts were sorted over and others will be obtained from the Agricultural college.

A trip will be made to Lincoln next week to attend the annual feeders day at the College and a state meeting of county agents.

D. H. Propps.

Shoshone.

Aside from office work on milk sheets and miscellaneous field work, the greater part of the week ending October 28 was occupied with giving assistance to Mr. Gould, Farm Bureau committeeman, in the matter of preparing for a shipment of two carloads of cattle to Omaha, and furnishing information to owners relative to market prices and classification. By the end of the week the

Shoshone (continued).

indications were that the Railway company would not be able to furnish cars for some time, though the needed number of animals had been listed.

While conferring with owners relative to proposed shipment, occasion was taken to secure the cooperation of a number of farmers in carrying out a project to apply sulphur in the proper amount on as many acres as there are types of soil on the Powell Flat. It is believed that the sulphur may be obtained from a sulphur mine located a few miles above Cody, Wyoming.

During the week 17 farm visits were made and 45 requests for assistance received.

G. A. Wright.

Uncomahgre.

Arrangements for the second annual poultry show of the Montrose- Delta poultry association were taken up during the week ending October 28. The show is to be held in Montrose from November 30 to December 2, just preceding a similar show at Grand Junction. A licensed judge has been secured for the two shows. Last year the local show was held at Delta, some 400 birds being exhibited. It is hoped a stronger show can be held this year to stimulate poultry raising. At present Montrose dealers are importing eggs for local consumption.

Preliminary arrangements were made for the fourth annual meeting of the purebred live stock breeders association which will be held in Delta on November 13. Indications are that this will be the final meeting of the organization as there has been very little interest shown in it, due probably to the fact that there are so few breeders of purebred live stock in Montrose county.

Some work was done in connection with a general meeting of boys' and girls' clubs to be held in Montrose on November 4. This is to be a "round up" for the year, also the occasion for planning next year's work.

Preliminary work toward the organization of a local egg marketing club was taken up. A local dealer who is interested in the matter makes a guarantee of 3 cents per dozen in summer and 5 cents in winter above the regular market for quality eggs, graded for color, size, etc. It is planned to take up the same question at Olathe and Delta if sufficient interest is shown.

H. A. Ireland.

WEEKLY BULLETIN

Of the Offices of

WESTERN IRRIGATION AGRICULTURE And DEMONSTRATIONS ON RECLAMATION PROJECTS

Vol. XXI.

November 4, 1922.

No. 19

Western Irrigation Agriculture.

Newlands.

Throughout the week ending October 28, the teamster was engaged in hauling manure from the U. S. Reclamation Service corral. So far the garden plats are the only tracts to be manured though some of the rotation plats will be treated later.

One carload of alum has arrived from the alum mine and at present the farm crew is busy hauling it to the farm. It is hoped to have this hauled by November 1 when it will be applied to the different plats. It is planned to substitute alum for gypsum on those plats that have heretofore received gypsum treatment.

E. W. Knight.

San Antonio.

During the four weeks period ending October 21 the following meteorological data were recorded: maximum temperature 98, October 7, minimum temperature 45, October 8; greatest daily range 41, October 8, and precipitation .01 inch, September 29. Twenty-one days were recorded as clear, six as partly cloudy, and one as cloudy. This period completes four continuous months with no rainfall of consequence. The upper soil is without available moisture, plowing is almost impossible, and farmers of this region are becoming worried for fear they will not be able to plant oats for winter pasture. Summer grasses, both cultivated and native, are completely dried up and the severe shortage of pasturage has been reflected on the local milk market by a raise of two cents per quart on the retail price. The farmer received an increase of one cent per quart.

Practically all cotton in this section has been picked and ginned. The quality of the entire crop is low, due to boll-weevil and drought injury. The average yield on the station for this season is 247 pounds of seed cotton per acre. The average yield throughout the county is perhaps less than half that amount. The final picking of cotton from the rotation and tillage plats was made October 17, 18, and 19.

Other work performed during the period included plowing on fields B4, C6, F3, and rotation plats; manuring orchards and rotation plats; mowing and burning weeds and grass in miscellaneous waste places; shelling corn; repairing and painting farm buildings, and chopping Johnson grass.

The Bexar County Fair, held under the auspices of the local Farm Bureau, was held September 28 to October 1, inclusive. Some very fine dairy and beef cattle were exhibited.

1884

1884

1884

1884

1884

1884

San Antonio (continued).

Mr. W. W. Ballard, of the office of Crop Acclimatization, spent a few hours at the station October 16 while enroute to Arizona.

G. T. Ratliffe.

Scottsbluff.

The average maximum temperature for the week ending November 4 was 51, with a maximum of 75 on the 29th; the average minimum was 27, with a minimum of 19 on the 31st. On the night of November 3 the weather changed and it began raining and rained most of Saturday, the total precipitation amounting to 1.32 inches. This was the first rainfall since July 27.

The beet crop was harvested and delivered to the dump during the month of October. The remaining potatoes were dug during the week.

Filling of silo No. 3, which will be filled about one-half full with corn, was started, to be completed with beet tops.

The working force of the farm has been reduced and will be cut to winter strength during this month.

J. A. Holden.

Demonstrations on Reclamation Projects.Newlands.

During the week ending October 21 the time of this office was devoted very largely to the Newlands Project Herd Testing Association. Every effort is being made to see that this herd testing work goes forward in a satisfactory manner. The membership has increased gradually to 65 and there is every reason to believe that the membership will be permanent.

Considerable time was devoted to answering inquiries relative to general herdmanagement and buying cattle and bulls. The dairy industry is attracting more attention locally at this time than any other agricultural subject. The price of butterfat has had a temporary setback, decreasing to 43 cents per pound locally. This price, however, insures a good return for labor and feed.

Fifty calls for assistance were received during the week and thirteen visits were made to project farms.

During the week ending October 28, thirty-seven calls for assistance were received and twelve visits were made to project farms.

The herd testing association work occupied the principal efforts during the week.

The price of butterfat has increased and the general sentiment of dairying is on the increase.

One dairy lease was arranged during the week. A number of other ranchers have made applications to this office to find dairymen that might rent their ranches.

Newlands (continued).

The price of alfalfa hay has gradually advanced to \$14.00 per ton, f.o.b. cars. The price of butterfat, however, has kept pace with the advance in hay prices so that the dairymen have been able to realize a good return on hay plus his labor expenses. There is a very good demand for dairy cows locally at prices ranging from \$100 to \$130 per head.

L. E. Cline.

North Platte.

Most of the week ending November 4 was spent attending the annual conference of county agents and the annual Feeders' Day at Lincoln. Lantern slides and other material were obtained from the Extension Service for use in evening meetings during the winter.

The County Agent's conference lasted four days. Most of the time was spent in discussing county agent's problems and reports of committees on agronomy, live stock, dairying, horticulture, entomology, and pests, rural economics, engineering, poultry, community betterment, reports and office records, organization, health and hygiene, publicity, films, slides and exhibits, and programs of work. G. E. Farrell from the Washington office was in attendance and addressed the conference Wednesday afternoon.

D. H. Propps.

Shoshone.

During the week ending November 4, twenty-three requests for assistance were received, most of which pertained to the marketing of cattle, sheep and poultry.

Rainy weather, which rendered the roads almost impassable, began October 27 and continued until November 2, when a severe blizzard occurred. The week consequently was spent in the office attending to requests that came by telephone and letter, working on milk sheets, and indexing and filing bulletins, articles and other information which had been accumulating for several months. An article on "crop rotation" was prepared for the local papers.

On Saturday the Powell creamery caught fire and before the fire could be extinguished considerable loss was experienced but the equipment was largely removed in time to prevent damage to it. Arrangements were immediately made by the manager to use another building as a receiving station. The cream received will be shipped to the Yellowstone at Billings, Montana, until repairs are made. The price of butterfat continues to be 39 cents per pound.

G. A. Wright.

Uncomprehre.

The greater part of the week ending November 4 was spent in connection with the poultry show to be held in Montrose November 30 to December 2. The premium list has been prepared, a judge secured, a room engaged, etc. One-half day was spent in connection with a proposed cooperative egg marketing plan.

A local farmer was accompanied to Grand Junction on Wednesday and a Jersey bull selected. The Mesa county Jersey club has listed a number of bulls to be put out under a free-lease plan in which the ownership of the bulls remains nominally with the lessor but the bull is transferred unconditionally to the lessee. A yearling bull of very good type, a grandson on the sire's side of Sophie 19th of Hood farm and out of a cow of good type though without official records.

Saturday a meeting was held for all club members. A picnic lunch was served at noon, after which achievement pins and premium money were given to all those present who had completed the year's work, and all who wished to enroll for any club next year were given an opportunity to do so. On account of bad weather the attendance was small although a fair number of members and club leaders were present.

Snow began falling Friday night and continued all day Saturday, about 12 inches falling in as many hours. The storm caught a great many farmers with potatoes undug, many of which will probably be left in the ground. As potatoes are quoted at only 35 cents for No. 1 grade they scarcely pay the cost of digging.

H. A. Ireland.

Experiments with Potato Scab, Scottsbluff, 1922.

Potatoes have been one of the important crops on the North Platte Reclamation Project for some years. When conditions have been favorable the yields have been satisfactory but there have been serious losses from diseases. One of the serious diseases has been potato scab.

It has been observed that the losses from potato scab could be reduced materially by the following measures: (1) The use of clean seed, (2) The treatment of the seed with corrosive sublimate, and (3) Planting potatoes on land following several years of alfalfa. The beneficial effect of alfalfa in rotation with potatoes has been very marked ever since the rotation experiments were started. This effect has been evident not only in larger yields but also in a small proportion of scabby potatoes. There has been some uncertainty as to just why the potatoes were less scabby when following alfalfa than when grown in non-alfalfa rotation. It was thought possible that the abundance of decaying organic matter which occurs where the alfalfa sod is broken up might change the reaction of the soil in the direction of reducing its alkalinity. There has been some basis for the belief that the potato scab organism thrives better in alkaline than in acid conditions.

Acting on the assumption that a modification of the soil reaction might be a factor in checking the injury from scab it seemed worth while to try the use of aluminum sulphate as a means to this end. Accordingly a field experiment on scab control was undertaken at the Scottsbluff Experiment Farm during the current season. This experiment is described and the results are given in the following letter:

" Mr. C. S. Scofield,
Washington, D. C.

November 4, 1922.

Dear Mr. Scofield:

Your letter of October 27 asking for the results from our experiment of treating potatoes with alum and sulphur has been received.

"In this experiment there were two tests. In the first, the treatment was applied to the soil, and in the second, the seed potatoes received the treatment. The land on which the first test was conducted was in potatoes last year and in alfalfa hog pasture for a number of years previous. The land on which the second test was conducted was in melons last year, potatoes in 1920, fallowed in 1919, and alfalfa hog pasture in 1917 and 1918.

"In the first test the land was furrowed out with a beet ditcher and the alum and sulphur scattered in the bottom of the ditches by hand. The application of alum was at the rate of 50, 25, and 10 pounds per 100-foot row, and sulphur at the rate of 5, 2½, and 1 pounds per 100-foot row. A cord with markings every 16 inches was then laid out along the ditch and the potatoes dropped by hand every 16 inches. Each of the treated rows received the same number of seed pieces. The two border rows between each of the different treated rows were filled in with the planter. Certified Triumph seed potatoes were used for all rows.

Experiments with Potato Scab, Scottsbluff, 1922 (continued).

"The yield in pounds from each row in this test is given in Table I. As here shown, the heavy application of alum cut down the yield. This was due, more or less, to a poor stand. The same number of seed pieces was used in each case, but the alum caused the decay of quite a number which made fewer hills per row. The average weight of potatoes per hill, as obtained by dividing the number of hills into the weight of potatoes, was 1.33 pounds where 50 pounds of alum was used; 1.53 where 25 pounds was applied; and 1.53 pounds where 10 pounds was applied, as against 1.66 pounds in the check rows.

"The quality of potatoes was equally good from all rows. There was practically no scab on any of the potatoes in this test.

"In Test No. 2, the potatoes were all very scabby. Perhaps those treated with lime were more scabby than the others. Two different lots of seed were used in this test. Scabby potatoes that were grown in the short rotations in 1921 were used and also good clean certified seed. Where corrosive sublimate was used the potatoes were soaked in the solution for one hour. Where lime, sulphur and alum were used, the potatoes were thoroughly dusted after being cut. The potatoes were planted a couple of hours after being treated. The yield from each row in this test is given in Table II. It will be seen from this table that the yields from the alum treated rows are low. This was also caused by some of the seed pieces decaying. The table also shows that there was a marked difference in the yield from the certified seed and the scabby seed.

"The results from these two tests do not show anything with reference to scab control, for in Test No. 1, all potatoes, both check and treated rows, were free from scab and in Test No. 2, both check and treated rows were very scabby. Had Test No. 1 been planted on the land used for Test No. 2, the effect of the treatment, perhaps, would have showed. When the planting was made it was thought that there were more chances for scab in the soil where potatoes were grown last year than in the soil where potatoes were grown in 1920, but evidently this was not true.

Very truly yours,

J. A. Holden.

Experiments with Potato Scab, Scottsbluff, 1922. (continued).

Table I.- Yields of potatoes in pounds per row, grown on land receiving different amounts of alum and sulphur per 100-foot row at the Scottsbluff Experiment Farm, 1922.

	or- der	Alum 50 lbs.	Bor- der	Alum 25 lbs.	Bor- der	Alum 10 lbs.	Bor- der	Che- ck	Bor- der	Sul- phur, 5 lbs.	Bor- der	Sul- phur, 2½ lb.	Bor- der	Sul- phur, 1 lb.	Bor- der	Che- ck
1	300	150	271	246	269	263	303	320	283	295	347	314	260	288	337	339
2	...	156	292	239	269	268	310	285	266	247	342	315	277	293	344	383
3	...	...	...	234	...	271	...	279	...	227	...	269	...	287	...	355
Avg.		153		240		267		295		256		299		289		359

Table II.- Yields of potatoes in pounds per row, grown from both good and scabby seed that received various treatments at the Scottsbluff Experiment Farm, 1922.

	Scabby seed, No treatment	Scabby seed, Corrosive sublimate	LIME.		SULPHUR.		ALUM.	
			Good seed	Scabby seed.	Good seed	Scabby seed	Good seed.	Scabby seed.
1	192	245	336	225	349	228	303	154
2	192	225	342	228	374	197	272	108
3	227	241	398	226	396	202	218	81
Average	204	237	359	226	373	209	264	114

In planning this experiment it was the aim to make the heaviest application at a rate that would check if not entirely prevent the growth of the potatoes, in order to be sure to cover the range of tolerance of the disease organism. The application of 50 pounds of aluminum sulphate per 100-foot row is equivalent to slightly more than $3\frac{1}{2}$ tons per acre. Under the conditions of the experiment this rate of application was clearly sufficient to reduce the stand and the vigor of the plants. It would appear also that there was some ill effect produced where the seed pieces were dusted with aluminum sulphate before planting.

Experiments with Potato Scab, Scottsbluff, 1922 (continued).

While the results of this experiment give no indication that aluminum sulphate may be useful in controlling potato scab they do show that clean seed gives much better yields than scabby seed, and that under the conditions of the experiment sulphur has no pronounced effect either on the yield or the disease.

C. S. S.

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WEEKLY BULLETIN

Of the Offices of

WESTERN IRRIGATION AGRICULTURE

And

DEMONSTRATIONS ON RECLAMATION PROJECTS

Vol. XXI.

November 11, 1922.

No. 20

Western Irrigation Agriculture.

San Antonio.

During the two weeks ending November 4, rainy, drizzly weather has taken the place of the drought which prevailed in the San Antonio region for four months and two days. A rain of 1.68 inches fell the night of October 22, followed by an additional .45 inch the night of October 24. A beating rain of 2.62 inches was recorded for the night of October 30 followed by a drizzle of .05 inch the forenoon of the 31st. Very little field work has been possible on the heavier soils of the region although a few farmers have attempted to seed oats between rains. Both Johnson and Bermuda grass have started growth and stockmen are feeling much more optimistic than they were two weeks ago.

Lone Star cotton from the first picking from rotation and tillage experiment plats, which was saved for seed, was ginned during the period. Field work done consisted of preparing rotation plats for planting of field peas and rye for green manure; starting a "Manghum terrace" at the north end of fields B4, C4 and D4; seeding oats in the pasture east of the corral; and grubbing dead and diseased trees from orchard E3. Beside ginning cotton, rainy weather jobs included repairing the water system; cleaning and oiling harness; cleaning, repairing, and painting farm machinery; and building a heavy frame on which to mount our electric motor for doing jobs outside the shop building.

Yields of Sumac sorghum and of Sudan grass harvested from the rotation plats for the season are given in the following table. The first cutting from all the broadcasted plats was badly damaged by being rained on while in the swath and windrow. All cuttings from the continuously cropped plats of broadcasted sorghum (B4-12, 13 and B5-6) consisted principally of Johnson grass and pigweeds.

San Antonio (continued).

Table I.-- Yields of Sumac sorghum and of Sudan grass from Rotation and Tillage experiment plats, San Antonio Experiment Farm, 1922.

Plat.	Yield per plat - (pounds air dry)				Total yield per acre, tons.
	First Cutting	Second Cutting	Third Cutting	Total	
Sorghum in 4.1 foot rows					
A4-10	960	820	....	1780	4.45
A5-4	1070	510	....	1680	3.36
B5-5	1540	490	....	2030	4.06
-9	1300	820	....	2120	4.24
-13	1416	1120	....	2580	5.16
Average	1314	813	....	2127	4.26
Sorghum in 8 inch drill rows.					
A4-12	1740	300	....	2040	4.08
-16	1100	280	....	1380	2.76
B4-12	735	1640	190	2565	5.13
-13	705	1160	150	2015	4.03
B5-6	290	940	110	1340	2.68
-11	2490	545	....	3035	6.07
-15	2040	915	....	2955	5.91
Average				2190	4.38
Sudan grass in 8 inch drill rows.					
A5-17	975	1500	340	2815	5.63
B4-14	810	895	70	1575	3.55
Average				2295	4.59

Mr. H. H. Schutz, of the Bureau of Farm Economics, who has recently taken charge of Crop Estimation work in the State of Texas, with headquarters at Houston, was a station visitor October 24.

Meteorological data recorded for the period are as follows: Maximum temperature 90, October 22; minimum temperature 46, October 26 and 31, greatest daily range 29, October 28; and precipitation 4.80 inches. Eight days are recorded as clear, 3 partly cloudy, and 3 cloudy.

G. T. Ratliffe.

Scottsbluff.

The average maximum temperature for the week ending November 11 was 40, with a maximum of 53 on the 10th; the average minimum was 22, with a minimum of 11 on the 6th.

The week has been one of storms. The rain on the 4th. turned into snow that night and the worst blizzard for this time of the year that the Valley has ever experienced. The roads were badly drifted. There was no stock damage done. It had not warmed up enough to melt the snow sufficiently that field work could be done by the last of the week.

Scottsbluff (continued).

The storm has interfered seriously with the beet harvest in the Valley. There are quite a number of beets yet in the field and a few growers have some still in the ground. It is probable that the storm will not last until the ground freezes for the winter, but it is probable that there will be considerable loss in sugar content.

J. A. Holden.

Umatilla.

The weather during the month of October continued unusually mild until practically the last of the month. The first killing frost of the year occurred October 27 which is the latest in the farm records. The maximum temperature was 79, the minimum 21, and the precipitation amounted to .45 inch.

Messrs. Bean, Wright, and Singleton, of the Prosser station visited the farm and attended the Hermiston Dairy and Hog Show on the 6th. The hog section of the show was better than previously, but the dairy exhibits were not up to normal.

A carload of feeder lambs was purchased to use up the excess hay produced. There are 220 head, which averaged 52 pounds and cost 10 cents per pound. The plan is to divide them into 5 lots, to have one pound per head per day of corn, oats, wheat, and a mixture of $3/4$ barley and $1/4$ wheat.

The work during the month consisted in finishing up the field work, cutting corn, and digging potatoes. Some time was spent in fixing up feed lots. Three and one-half days were spent in demonstration work. Irrigation systems for 61 acres were laid out and re-location given for 650 feet of ditch.

H. K. Dean.

Demonstrations on Reclamation Projects.Minidoka.

The most important part of the work during the week ending November 11 consisted of rotation and livestock plans for project farming studied with Messrs. Denman and Barber. A conference was held with Mr. Rinehart concerning project livestock farms and the formulation of a program for livestock day at the State Seed Show, which will be held at Burley this year.

The pigs owned by boys engaged in Smith-Hughes work in the Burley High School were inspected Saturday.

J. T. Montgomery.

North Platte.

The week ending November 11 was stormy and the roads were impassable for cars. Most of the week was spent in the office and with the livestock at the Experiment Farm.

THE HISTORY OF THE

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North Platte (continued).

The last part of the week sickness in hogs was reported in the Spottedtail community, 10 miles northwest of the experiment farm and requests came for assistance. The trip was made with a team and examination showed pneumonia and symptoms of cholera. Serum was ordered from Lincoln and preparations made for vaccination. This is the first time that symptoms of cholera have been found this fall. Most of the hog trouble has resulted from improper feeding and poor housing. Owners have been advised as to better methods of care and now that cholera has appeared in one herd every effort will be made to prevent the spread of the disease.

D. H. Propps.

Shoshone.

During the week ending November 11, two farm visits were made and 35 requests for assistance were received.

Stormy weather continued most of the week and the roads were in bad condition throughout. Office work consisted chiefly in furnishing information about sheep, cattle and hog markets and the possibilities of cooperative shipment of the same. Two demonstrations were conducted before animal husbandry classes at the high school for the purpose of acquainting students with live stock registration and enabling them to make application for registry. Two flocks of poultry were culled and work accomplished on milk sheets and individual cow records.

Miss Weis, of the Wyoming Extension Staff, conducted a two-days millinery school at Powell. On account of the condition of the roads the attendance was small.

The Powell Creamery resumed business in its own building which had previously been damaged by fire. Bad roads compelled the Creamery to cease operating cream routes. The price of butterfat is 40 cents.

G. A. Wright.

Uncompahgre.

Two flocks of poultry were culled on Monday of the week ending November 11 for farmers who desired to reduce their flocks. The two bunches, both Rhode Island reds, totalled 256 hens of which 94 or nearly 37% were culled. In the culling work done this year it has been evident that late hatching of chicks is largely responsible for the high percentage of culls, the late hatched birds showing in practically their pullet form at over a year old, except that they go into the molt early in their second summer. Most of them have the appearance of never having laid an egg.

D. A. Jay, State Livestock Specialist, visited the office this week by request and was taken to visit President Rockwell of the Delta County Livestock Association, a very progressive man who had expressed an interest in a number of ideas suggested at the last annual meeting of the association regarding the cooperative purchase of bulls by users of the National Forest ranges, segregation of breeds on the range, and the sale of calves for

Uncompahgre (continued).

feeders instead of holding them to sell as yearlings or two-year-olds, a plan which would permit an increase of cow herds, increasing the percentage of calves due to having no steers on the ranges, reduces losses and making a quicker turn-over. Figures for the state show that weaners are worth \$30 to \$35, while the same stock a year later is worth only \$10 a head more, a strong argument in favor of early selling. Tentative plans were worked out with Mr. Rockwell in the direction of the above program.

The rest of the week was largely given to arrangements for the local poultry show and assisting a local dairyman in the selection of a Jersey bull.

H. A. Ireland.

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WEEKLY BULLETIN

Of the Offices of

WESTERN IRRIGATION AGRICULTURE And DEMONSTRATIONS ON RECLAMATION PROJECTS

Vol. XXI.

November 18, 1922.

No. 21

Western Irrigation Agriculture

Huntley.

Weather conditions during the two weeks ending November 11 were unfavorable for field work, the ground being covered with snow during the time. The harvest of beets on the project is not entirely completed. It is feared that a small acreage of this crop may remain unharvested should the present weather continue.

The amount of fall plowing accomplished was much less than usual. Since this was the first rainfall of consequence since early summer, winter wheat is in rather poor condition and was generally not up before this storm occurred.

Silage corn, field L, 1922.- A test of four varieties of corn for silage and of the effect of manuring for corn was conducted on 24 one-quarter acre plats in field L-I and L-II. These fields were cropped uniformly to corn in 1921 and to oats in 1920. Field L-I was manured for the 1922 crop while field L-II was not manured. Both fields were fall plowed.

The variety Calico was the highest yielding in both fields, although the yield of this variety was but slightly more than the yields of Mitchell and Paynes dent, while it exceeded the yield of Northwestern dent by about 2.5 tons. All of these varieties were sufficiently matured for silage by the date of harvest, which was September 15.

The increase in yields on the manured plats in field L-I over the unmanured plats in L-II was from 2.4 tons per acre to 3.2 tons per acre in the different varieties, with an average increase of 2.8 tons.

Dan Hansen.

Prosser.

During the two-week period ending November 11, station activities were as follows: Fencing was completed on the hog lots and steer lots, and two new hog houses were built to take care of sows that are expected to farrow this month. One carload of three-year-old steers, comprising 27 head, were received from Rothrock Brothers at Ellensburg, Washington. These steers were weighed out at the station November 10, the average weight per steer being 1,090 pounds. They are to be finished for beef by the station at 15 cents per pound gain. Several more carloads are expected within the coming week.

The small band of lambs, totaling 874 head, which have been on pasture since October 20, were weighed during the week and averaged 61.1 pounds per lamb.

Work in the office consisted of preparing two "Water Relations" graphs showing the amount of water held by the soil before and after irrigation, at the wilting point of alfalfa, and at the total saturation point, also showing

Prosser (continued).

amounts of water applied and wasted by the border method and furrow method of irrigation. The table was completed showing the total amount of water in acre-feet delivered to the station during the last season.

C. C. Wright.

Demonstrations on Reclamation Projects.Newlands.

The final organization of the Newlands project herd testing association was perfected during the week ending November 4. The herd testing work was carried on under the supervision of this office during the month of October. Much of the responsibility will now be transferred to the newly elected officers.

The price of butterfat continues to be good. The average price received locally during the month of October was 54 cents per pound. This contributes to a good sentiment toward dairying.

During the week assistance was given in the purchase of one registered Holstein bull and one Holstein herd of eight cows. Arrangements were also made for the exchange of a dairy herd. There were received during the week forty three calls for assistance, principally concerning dairy herd management and the selection of dairy herds.

During the week ending November 11, 39 calls for assistance were received and visits were made to four farms.

The preparation of the turkey crop for the holiday marketing season is commanding more than its usual amount of attention. The turkey crop this year will be considerably larger than for any previous year. Two hundred and fifty thousand pounds of turkey is the estimate placed on this year's crop. During the early part of the growing season there was a quite general outbreak of black head among the turkeys. This subject was taken up by this office through the local papers, and the methods of treatment which have proved beneficial in this locality for the past few years were persistently urged upon the growers. The methods of combatting this disease were very generally carried out with the result that the losses were kept down to a point where there was very little discouragement. In many cases where the premises on which turkeys were being raised and which were badly infested with black head, continual treatment together with sanitary measures reduced the losses to almost nothing.

The present season's experience has been very encouraging to the turkey industry. The growers feel that the prevalence of black head disease in their community need not destroy their industry if the proper precautions are taken. There will no doubt be a very large increase next season in the number of turkeys raised. Fallon turkeys have always attracted attention on the San Francisco market for quality. Many of the turkeys which come onto the San Francisco market for the holiday season are range grown and have not been finished in the same degree that our local turkeys have.

L. E. Cline.

It is the duty of the physician to see that his patients are properly instructed in the use of the various remedies which he prescribes. The physician should be sure that his patients are properly instructed in the use of the various remedies which he prescribes.

W. J. H. H.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

CHICAGO, ILL.

The Journal of the American Medical Association is a weekly publication which contains the latest news and information in the medical profession. It is a valuable source of information for the physician and the patient alike.

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WEEKLY BULLETIN
Of the Offices of
WESTERN IRRIGATION AGRICULTURE
And
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Vol. XXI.

December 2, 1922.

No. 23

Western Irrigation Agriculture.

Prosser.

Most of the time during the week ending November 25 was occupied with preparations incident to getting the feed lots ready for the live stock feeding experiments which are to begin December 1. The proposed feeding program will take care of more than 200 head of cattle and 875 head of sheep. This band of sheep and 175 head of the cattle are on the station, and another carload is expected within the next few days.

The Washington State Irrigation Institute was held at Yakima during the week. Members of the station staff attended and took part in the program.

Harvesting of potatoes from new land which was treated with various fertilizers was completed, the results of which follow:

Plot Number.	Treatment applied.	Total yield, tons
1	Sodium nitrate, 150 pounds	5.30
2	Soda nitrogen, 150 pounds	5.60
3	Check	6.68
4	Ammonium Sulphate, 150 pounds	6.92
5	Fish scraps, 300 pounds	5.94
6	Yard manure, 14 tons	7.50
7	Land plaster, 200 pounds	5.99
8	Check	4.85
9	Alfalfa hay, 2 tons	5.82
10	Sheep manure, 15 tons	6.79

C. C. Wright.

Scottsbluff.

Somewhat warmer weather prevailed during the week ending November 25. The snow is disappearing and the frost is going out of the ground making it possible for those who had beets still in the ground to lift them. Siloed beets are now being delivered.

Station activities consisted of miscellaneous repair and improvement jobs; work on the new hog house and piling beet tops in the field preparatory to siloing them next week.

REPORT OF THE

COMMISSIONER OF THE

LAND OFFICE

AND

DEPARTMENT OF THE INTERIOR

LANDS BELONGING TO THE UNITED STATES

1880

The following is a statement of the lands belonging to the United States, as reported by the Commissioner of the Land Office, and as approved by the Secretary of the Interior, for the year ending June 30, 1880. The statement is divided into two parts, one showing the lands as they were at the beginning of the year, and the other showing the lands as they were at the end of the year. The statement is given in tabular form, and is divided into three columns, the first of which shows the number of acres, the second shows the number of sections, and the third shows the number of townships. The statement is given in tabular form, and is divided into three columns, the first of which shows the number of acres, the second shows the number of sections, and the third shows the number of townships. The statement is given in tabular form, and is divided into three columns, the first of which shows the number of acres, the second shows the number of sections, and the third shows the number of townships.

Number of acres	Number of sections	Number of townships
1,000,000	1,000	100
1,000,000	1,000	100
1,000,000	1,000	100
1,000,000	1,000	100
1,000,000	1,000	100
1,000,000	1,000	100
1,000,000	1,000	100
1,000,000	1,000	100
1,000,000	1,000	100
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1880

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Scottsbluff (continued).

No potatoes are being marketed in the Valley. Very little hay is being sold as nearly every one is holding until spring. Those who are selling or offering for sale are asking \$12.00 in the stack.

J. A. Holden.

Demonstrations on Reclamation Projects.Minidoka.

The most important matter that came to the attention of the Agriculturist during the week ending November 25 were plans for financing the purchase of dairy cattle along the lines of the building and loan association, and the interest displayed in club work in the Paul district.

Farm visits made during the week consisted chiefly of method of housing, feeding and culling of poultry.

Prompt vaccination of a herd of calves stopped losses from blackleg.

J. T. Montgomery.

Newlands.

During the week ending November 18, Mr. Cooley visited the project and spent the time between Tuesday and Friday going over the demonstration work in progress. On Thursday a trip was made to Reno, Nevada, to confer with the Extension Department of the state and other departments of the State University.

One article was contributed to the local paper reporting the results of the first month's operation of the Newlands Project Herd Testing Association. The first month's herd testing included 54 herds with 921 cows. The average production of these cows was 1349 pounds of milk and 28.69 pounds of butterfat per cow. With our average price of butterfat of 54 cents per pound for October the average gross returns for the cows tested was \$31.36 for the month.

One trip was made during the week for the purpose of selecting a herd of dairy cattle.

One carload of dairy heifers was shipped into the project from Humboldt County for sale by a speculator. These animals have been placed on a ranch where they will be accessible to people who desire to inspect them.

Thirty calls for assistance were received and four visits were made to farms.

L. E. Cline.

North Platte.

During the week ending November 25, a trip was made in company with Mr. Holden to Torrington, Wyoming to attend the annual state potato show. The educational part of the show consisted of a three-day program on which

North Platte (continued).

appeared speakers from the Wyoming Agricultural College, the State Farm Bureau, county agents, men from a number of experiment farms, and representatives of the Burlington and Union Pacific railroads. The program was well attended and the potato exhibits a very creditable one considering the condition of the roads.

While in that part of the project a day was spent at Fort Laramie calling on dairymen in the vicinity, especially those who filled silos for the first time last fall. Mr. Darnell is building a new dairy barn and on request information was given as to proper measurements, arrangements, etc.

The weather began to modify the first of the week. Beet hauling began again and general farm work was resumed. To accomodate the larger herds of live stock at the experiment farm, a colony hog house with lots has been built; improvements are being made in the dairy barn and corrals, and a water heater has been installed in the milk house.

No outbreaks of cholera have been reported but several cases of pneumonia in hogs have resulted from exposure.

D. H. Propps.

Shoshone.

During the week ending November 25, twenty-four farm visits were made and 35 requests for assistance were received.

The Farm Bureau marketing committee was assisted with the marking, loading and billing of two carloads (64 head) of cattle consigned to commission firms at South Omaha during the forepart of the week. These cattle were of all kinds excepting good dairy stock, and it is not expected that shippers will realize a great deal from their sale, but at least their consumption of hay has been stopped. Two buyers made bids for project lambs, the higher one being 10-1/2 cents per pound. After a conference it was decided not to accept that price. Six visits to farms were made to bring poultry records up to date and to assist poultry keepers with feeding and culling problems. Milk sample bottles were distributed at Frannie and Deaver and samples from two herds tested.

On Saturday, representatives from all the local project Farm Bureau organizations met at Powell to consider the question of sending someone to Chicago to place before the National Farm Bureau the financial condition of the Shoshone Project in an attempt to gain assistance toward securing relief in the matter of irrigation charges.

G. A. Wright.

Uncompahgre.

A good part of the week ending November 25 was given to work in connection with the poultry show, numerous calls having been received for assistance and information regarding selection and preparation of poultry for exhibit. Interest in the show indicates that there should be a good number of exhibitors. Several trips have been made to help farmers select breeding hogs and dairy

Uncompahgre (continued).

cows, though only one purchase has been made as a result. This was of a purebred Poland China boar. Frequent inquiries for boars are being received and there is some demand for dairy cows. Milk tests were made for four men.

Another Jersey bull was received from Grand Junction this week on the free-lease arrangement of the Mesa County Jersey Club. Mr. Theby who sent for the bull through this office without having seen him, is very well pleased with the type and breeding of the animal which is a yearling from one of the best herds of Mesa county. The bull has passed the tuberculin test and is registered. The total cost to Mr. Theby is about \$12.00

A call was received to examine hogs near Olathe for cholera, one having died. Autopsy showed pneumonia. There has been no cholera on the project for about a year.

H. A. Ireland.

QUALITY OF THE WATERS OF THE RIO GRANDE.

An extensive study of the quality of the waters of the Rio Grande was made by Stabler^{1/} in 1905, 1906 and 1907. This study was based on samples taken at intervals of 3 or 4 days at Courchesne near El Paso and at San Marcial, New Mexico.

From the samples taken at El Paso, 28 composites were analyzed. As to total salts the mean of these analyses is 700 parts per million, the extreme being 324 and 2,680 parts. In general it appears from the detailed analyses of the individual samples that the most salt is found when the stream is very low. This may be due to a large proportion of seepage water or return flow at the time of low water.

The summary of the analyses shows that the calcium and magnesium constitute 17.6 per cent of the total solids. The bicarbonate radicle averages 34 per cent, the sulphate radicle averages 30 per cent and the chlorides 15 per cent.

For the station at San Marcial located about 40 miles up stream from Elephant Butte, the report cited gives the analyses of 21 composites. The mean salt content for these is 438 parts per million, about two-thirds as high as at El Paso. The extremes range from 228 to 1140 parts per million. The mean of the calcium and magnesium in per cent of total salts at 19.1 per cent, the bicarbonates 38 per cent, the sulphates 31 per cent and the chlorides 9.8 per cent. The difference between the two sets of results would indicate that the water is modified materially after serving the irrigated lands between Elephant Butte and El Paso.

Below El Paso, the Rio Grande has one important tributary from the north, the Pecos, and several from the south. These tributaries add largely to the volume of the lower river, and doubtless modify the quality of the water.

The lower river is used for irrigation to some extent in the vicinity of Laredo and to a large extent in the Valley just above Brownsville. In the latter section it is reported that there is some trouble from accumulations of salt in the soil and in the ground water.

Unfortunately there does not appear to be available any comprehensive series of analyses of the waters of the lower river. A single sample of this lower river water has been taken recently by Mr. T. R. Robinson from Mercedes, Texas, and analysed by Breazeale. This sample showed 400 parts per million of total salts of which 17.5 per cent is calcium and magnesium, 39 per cent bicarbonates, 28 per cent sulphates, and 17 percent chlorides. At the time this sample was taken the river was said to be in the middle stage as to discharge.

In so far as this one sample may be taken as representative of normal conditions of the lower river it indicates that this water is of very good quality as compared with that of many other important irrigation streams in the west.

^{1/} Water supply paper #274, 1911.

WEEKLY BULLETIN
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No. 24

Western Irrigation Agriculture.

San Antonio.

The meteorological data recorded at the farm during the four weeks ended December 2 are summarized below:

Week ending.	Temperature.			Precipitation		Days Clear	Days partly Cloudy	Days Cloudy
	Max.	Min.	G.D.R.	Date	Inches			
November 11.....	84	63	15	11/5	.03	1	3	3
				11/6	.03			
				11/7	.02			
				11/9	.06			
				11/10	.01			
November 18	82	42	40	11/12	.34	0	0	7
				11/13	.10			
				11/14	T.			
				11/15	.08			
				11/16	.22			
				11/17	T.			
November 25	74	36	33	0	0	3	4	0
December 2	82	37	38	0	0	3	2	2
Total89	7	9	12

The precipitation during the first two weeks of the period was not heavy, but was received in the nature of an almost continuous heavy mist which made it impossible to work in the fields. The last two weeks of the period, however, were very favorable to farm labor of all kinds. As rapidly as possible after the period of wet weather the various plats and fields which were needed for fall plantings were given the necessary preparatory treatments which they required and plantings were made as summarized in the following table:

San Antonio (continued).

Crop or Experiment	Location	Date seeded.
Oats	Farm Residence	November 6
Field Peas	Rotation plats	November 9 & 10
Rye	B6-18	November 9
Grass varieties (Live material)	Nursery A3	November 20
Oats	B3; C3	November 21
Flax	Nursery A3	November 21 & 22
Flax variety test	A3	November 23
Alfalfa	E3	November 23 & 24
Grain variety test	C4	November 24 & 25
Oats	Rotation plats	November 27 & 28
Wheat Varieties and Strains..	C4	December 2

Fall plowing on the station is behind schedule by at least two weeks. The plowing of rotation and tillage plats, which are scheduled to be plowed in November, was only well started by the last of the month. Practically all plantings made are now up to good stands and making satisfactory early growth. All oat and barley seed was given the formalin treatment to prevent smut, and all alfalfa and field pea seed was inoculated with the proper culture of nitrogen gathering bacteria, before being planted.

Work performed on the station included plowing, disking and harrowing fields and plats used for fall plantings; making plantings listed above; hauling manure; cutting cotton stalks; overhualing the heating plant in the greenhouse; sawing wood; taking final soil moisture determination samples for the year; painting machinery, and miscellaneous odd jobs of cleaning and repairing farm buildings and equipment.

Geo. T. Ratliffe.

Scottsbluff.

The weather during the week ending December 2 continued cold and damp and not favorable for field work. The average maximum temperature for the week was 47, with a maximum of 56 on the 28th; the average minimum was 24, with a minimum of 10 on December 1. On the night of November 29 there was a rain which changed to snow, the total precipitation being .32 inch.

The entire working time during the week was spent in siloing beet tops. It proved slow work, owing to the fact that the tops have to be hauled about three miles.

All of the beets, at least on the north side of the river, are out of the ground. The factory at Mitchell will close about the 5th. as deliveries are coming too slow to operate. The mill at Gering and the one at Scottsbluff will take care of all the late deliveries and will close about December 20.

The potato market is showing some strength. Inquiries are beginning to come from the South for certified seed stock for December and January deliveries.

J. A. Holden.

Demonstrations on Reclamation Projects.Minidoka.

The week closing Saturday December 2 proved one of the most interesting and profitable since the incumbent's arrival on the project.

The willingness of a bank to assist in financing the purchase of brood sows by a number of farmers in the vicinity is one of the most hopeful things we have struck on the project.

The increasing interest in poultry as a side line on project farms was demonstrated by the interest shown in the meeting at the agriculturist's office on Saturday. A permanent poultry organization will be the result of this meeting. The plans of the association will be included in a future report.

J. T. Montgomery.

Newlands.

The first cooperative shipment of hogs which has left the project this year was made to the Nevada Packing Company on Friday of the week ending November 25. The hogs were weighed out and settled for early Saturday morning. Nine farmers participated in the shipment, making a little less than a maximum carload. The freight charges were \$35.50 for the car. This freight charge divided among the hogs shipped made a freight cost per hundred pounds of hogs of 21.2 cents.

The shrinkage between Fallon and Reno on one lot of hogs which were weighed before shipment amounted to 3.7 per cent. This shrinkage on 10 cent hogs amounted to 37 cents per 100 pounds. This added to the freight charge of 21.2 cents per hundred makes a total shipment cost for this particular lot of 58.2 cents per hundred pounds. There is no other expense attached to the shipment under this plan.

The prices received at Reno for this shipment of hogs were 10 cents for prime hogs weighing from 150 to 200 pounds. Good hogs weighing 200 to 250 pounds brought $9\frac{1}{2}$ cents per pound. Hogs weighing 250 and heavier brought 9 cents. Rough sows that had nursed pigs recently were docked 40 pounds. Very satisfactory contact was made with the packing company.

A second shipment will be made sometime next week as soon as sufficient numbers of hogs properly finished are ready for shipment.

During the week ending December 2 there were received 45 calls for assistance, and two visits were made to farms. Some time was spent in arranging a second shipment of hogs to be sent out the early part of the following week. One article was contributed to the local papers on cooperative marketing and setting forth the results of the previous shipment.

The principal activity on the project during the week was the marketing of the Thanksgiving turkey crop. The prices received locally for Thanksgiving turkeys ranged from 40 to 45 cents per pound. It is thought that most of the Fallon turkeys landed in San Francisco early enough to avoid the heavy drop in the market. It is a common practice in this locality to market the turkeys as they are ready and continue selling until breeding season

Newlands (continued).

in the spring. This avoids a big risk in marketing because of the big drop which often comes just prior to Thanksgiving day on the San Francisco market. Reclamation census just completed shows that 12,200 turkeys were raised this year which is three times the number raised last year. Present indications point to an increase next year almost equal to the present year's increase.

Turkey growing is a very profitable industry in connection with dairying and provides a profitable market for skim milk. The industry will be given considerable attention next year since it promises to become an industry of considerable importance and is especially adapted to new ranchers with limited means.

L. E. Cline.

North Platte.

The first part of the week ending December 2 was spent in the field in the interest of dairy work and assisting in selecting Hampshire boars for several farmers. A trip was also made to make a final inspection in the herd of hogs vaccinated on November 14. After vaccination there were no further losses among the well and slightly sick members of the herd, and no infections from vaccination developed. The herd is now apparently in a healthy condition.

Continued wet and changeable weather is causing considerable pneumonia among hogs. A few cases at the experiment farm have been isolated and have recovered. Farmers, as a rule, suspect cholera when their hogs show signs of sickness, but in most cases examined, the trouble has been pneumonia and when the sick hogs are separated from the rest of the herd and given proper care, they often recover in a few days. The State serum plant at Lincoln has been requested to allow a small quantity of serum to be stored here on the project so that it will be available for immediate use when necessary.

D. H. Propps.

Shoshone.

During the week ending December 2, twenty-six farm visits were made and 55 requests for assistance were received.

Letters giving information as to price, date of delivery, etc., were written to all sheep growers and assistance was given to both growers and buyer toward assembling all animals for sale on December 1 and 2, dates on which delivery took place. Thirty-seven farmers contributed to make a total of 665 lambs and yearlings for which S. K. Deverill, of Billings, Montana, paid \$6,061.00. This was the total net returns to growers. It is thought that the work done by this office in the way of getting buyers to come and look at the flocks and assembling them stimulated a competition which raised the price three-fourths of a cent a pound.

The time not given to the sheep shipment was chiefly taken up with work connected with the keeping of records of farm flocks and poultry and also milk records.

Shoshone (continued).

About a carload and a half of dressed turkeys have been marketed from Powell, not all of which, however, were grown on the project. The number produced for sale this year on the Garland Division is estimated at 6,000. A great deal of interest is being shown and the indications are that a much larger number will be grown next year.

Butterfat is selling for 43 cents per pound at the Powell Creamery.

G. A. Wright.

Uncomahgre.

Practically the entire week ending December 2 was given to the poultry show which was held the last three days in assisting in the work of preparing the room, etc.

A storm Wednesday night, and the fact that Thursday was a holiday, probably had much to do with making exhibits slow in coming in. Total entries, the number of exhibitors, and number of visitors at the show, were considerably under those last year at Delta, indicating less interest in poultry at Montrose than at Delta, which was known to be the case. D. A. Stoner, of Wichita, Kansas, a licensed A. P. A. judge, made the awards in the standard classes, and W. D. Hines, of Delta, judged the utility classes. A meeting held Saturday, at which Mr. Stoner gave an interesting and instructive lecture, was fairly well attended. Officers for the next year were elected at this meeting.

H. A. Ireland.

IRRIGATION AND GROUND WATERS, YAKIMA PROJECT, WASHINGTON.

The irrigation supply for the Yakima Project is diverted from the Yakima River and its tributaries. These streams originate in the Cascade mountains almost within sight of the irrigated lands and the waters are very low in total salts.

The waters of this drainage basin were sampled and analyzed in 1910 and 1911, and the results reported by W. Van Winkle of the Geological Survey in Water Supply Paper No. 339.

The samples were taken from three stations in the drainage basin:

1. On the Naches River below the junction of the Tieton River.
2. On the Yakima River below the junction of the Clealum River.
3. On the Yakima River near Prosser which lies below all the important tributaries of the stream and also below most of the irrigated land.

A summary of the analyses of the water at these stations is given in the following table both in parts per million and in percentage of the total salts.

Table I.- The quality of the water of the Yakima River in 1910 and 1911. Total salts and important elements stated in parts per million and in percentage of the total salts. From W. S. P. No. 339.

	Total salts	Ca and Mg	$\frac{\text{HCO}_3}{2}$	Cl	SO ₄
1. ppm	71	11	21	.4	6
Percent		16	31	.6	9
2. ppm	47	9	16	1.6	6
Per cent		19	34	3.4	13
3. ppm.....	123	22	40	5.2	21
Percent		18	32	4.3	17

The results in this table show that the Yakima River water is of excellent quality for irrigation use. The present situation as to the quality of the water may be judged from the examination of samples taken by Mr. C. C. Wright in the autumn of 1922 and analyzed by Breazeale (Tables II and III). One of these samples is of the irrigation water used on the Prosser Field Station. The other nine are underground waters.

The following is a list of the samples:

1. Service canal, Prosser Experiment Farm, August 2, 1922.
2. Open drain, Buena Vista district, 4 miles west of Prosser.
October 3, 1922.
3. Drain near Grandview under Sunnyside Canal, October 3, 1922.
4. Main drain on Indian Reservation, 6 miles southwest of
Toppenish. October 5, 1922.
5. Underground water 1.5 feet below surface at a point 1.5
miles south of Sunnyside. October 3, 1922.

Irrigation and Ground Waters, Yakima Project, Washington (continued).

6. Open drain, 1.5 miles east of Sunnyside, October 3, 1922.
7. Open drain in Tieton Unit, 7 miles west of Yakima.
October 4, 1922.
8. Open drain on Olney Flat, 1 mile north and 12 miles west
of Toppenish. October 5, 1922.
9. Mudlake drain, 13 miles west of Toppenish. Oct. 5, 1922.
10. Cased well at Prosser Experiment Farm, August 3, 1922.

Table II.- Irrigation and underground waters from the Yakima
Project, August-October, 1922. Collected by Wright.
Analyzed by Breazeale. Reported in parts per million.

Sample number	Total salts	Ca and Mg	HCO ₃	Cl	SO ₄
1	96	15	96	14	Tr.
2	400	92	360	14	45
3	456	96	240	42	135
4	208	45	156	14	24
5	472	156	480	14	35
6	760	152	336	28	284
7	480	90	336	28	84
8	400	89	384	21	24
9	496	117	288	49	160
10	416	87	120	56	140

Irrigation and Ground Waters, Yakima Project, Washington (continued).

Table III.- Percentage composition of the irrigation and underground waters of the Yakima Project. Samples collected by Wright, August-October, 1922. Analyzed by Breazeale.

Sample number	Total salts	Ca and Mg	$\frac{\text{HCO}_3}{2}$	Cl	SO ₄	Total acids
1 .....	.0096	15.6	42	15.0	Tr.	57
2 .....	.0400	23.0	45	3.5	11	59
3 .....	.0456	21	26	9.2	30	68
4 .....	.0208	22	37	6.7	12	58
5 .....	.0472	33	50	3.0	7	60
6 .....	.0760	20	22	3.7	37	63
7 .....	.0480	19	35	5.8	18	59
8 .....	.0400	22	48	5.2	6	59
9 .....	.0496	24	29	9.9	32	71
10 .....	.0416	21	14	13.0	34	61

In view of the fact that there are large areas of land on the Yakima Project that are too salty for crop production, it is remarkable that these samples of underground water show so little salt.

C. S. S.

W E E K L Y B U L L E T I N

Of the Offices of

WESTERN IRRIGATION AGRICULTURE
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Vol. XXI.

December 16, 1922.

No. 25

Western Irrigation Agriculture.

Newlands.

Effect of Calcium in Soil on the Absorption of Sodium Carbonate.

Problem.- To ascertain if a soil containing calcium has greater absorptive capacity for sodium carbonate than a soil from which the calcium has been removed by hydrochloric acid.

Method.- A good sandy loam soil was secured from the hot beds for the experiment. Two, one-quart percolation tubes were filled with the soil. No. 1 was leached with five successive half liter portions of M/10 HCl, which displaced all calcium. Tube No. 2 was leached with 500 C.C. of M/10 CaCl_2 in order to saturate the soil with calcium. Each tube was then leached with 1000 C.C. water to remove most of the soluble salts.

The soil from the leached tubes was then dried at 100°C . and soil and water extracts (1:5) made as follows:

- | | |
|--|--|
| 1. Original soil. | 5. CaCl_2 washed soil |
| 2. Same + .5% Na_2CO_3 | 6. Same + .5% Na_2CO_3 |
| 3. HCl washed soil | |
| 4. Same + .5% Na_2CO_3 . | |

Results.- Table I.- Absorption estimated by analyzing for CO_3

	Na_2CO_3	NaHCO_3	Na_2CO_3 equivalent	Amount recovered	Amount absorbed
1	0	758	480	....	....
2	4020	168	4126	3646	1344
3	0	504	319	....	....
4	2120	2270	3560	3241	1749
5	0	756	479	....	....
6	3180	840	3712	3233	1767

Newlands (continued)Effect of Calcium in Soil on the Absorption of Sodium Carbonate (continued)

Table II.- Absorption estimated by evaporation of extract and weighing residue.

	Total salts, p.p.m.	Gain from addition of Na ₂ CO ₃	Amount absorbed
1	1060	.....	.....
2	4750	3690	1310
3	890	.....	.....
4	4380	3430	1510
5	920	.....	.....
6	4260	3340	1650

Summary.— Out of a possible absorption of 5000 P.P.M. absorption occurred as follows:

	<u>By titration.</u>	<u>Gravimetrically.</u>
Untreated soil	1344	1310
HCl washed	1749	1510
CaCl ₂ washed	1767	1650

Conclusions.— The presence of calcium in the soil has little or no effect upon the absorption of Na₂CO₃.

F. B. Headley
December 13, 1922.

Scottsbluff.

The average maximum temperature for the week ending December 9 was 32, with a maximum of 45 on the 4th; the average minimum was 15, with a minimum of 6 on the 8th.

The corn plats in field K of the irrigated rotations were husked and the following yields obtained:

Series Plat.	Plat.	Rotation	Yield per acre.	
			Fodder, tons	Ear corn, bushels
I	18	6	1.55	22.5
II	2	26	2.11	22.5
IV	1	16	2.02	30.1
IV	5	32	1.93	35.2
IV	8	62	2.78	79.2

Scottsbluff (continued).

Filling of the silos was completed. One of the old silos, which had been partly fed out, was refilled with corn, and about 15 tons of corn silage placed in the new one and on top of this corn silage about 57 tons of beet top silage was placed. The result of this test of beet top silage is of considerable interest to the valley and is being watched with interest by a great many of the feeders. If it shows the efficiency that is claimed for it by its advocates, it will probably mean the erection of many new silos before another season.

The Great Western Sugar Company has announced the payment of \$1.00 per ton on the bonus proposition under their contract. This payment will be made December 22. The final payment, should there be any additional, will probably be made next fall.

J.A.Holden.

Demonstrations on Reclamation Projects.Newlands.

During the week ending December 9, there were 25 calls for assistance and visits were made to 7 farms.

The subject of cooperative marketing has been given considerable time for the past three weeks. During this time there has been shipped out of this project by cooperative shipment, two carloads of hogs, in which farmers were represented. These cooperative shipments have been handled the same as other shipments which have been made in the past. The price received for the last load of hogs was $9\frac{1}{2}$ cents in Reno for prime hogs, this being $\frac{1}{2}$ cent lower than for the previous week. In addition to the hog shipments, arrangements were made for selling one carload of veal and one carload of butcher stuff. These cooperative shipments are expected to be made during the coming week. The service rendered in connection with these cooperative shipments of live stock has been very much appreciated at this time, since this is the only means of disposing of surplus stock on the project.

Some time has been devoted during the week to interviews with four prospective settlers from Oregon, and this office is able to be of considerable service in this connection and the service seems to be very much appreciated by the strangers coming to this project. There is no doubt but that agriculturist stationed on reclamation projects can be a very important factor in assisting in the settlement of the projects if some special attention is given to this line of work.

L. E. Cline.

North Platte.

A number of cases of sickness among hogs were reported during the week ending December 9. In each case the trouble was found to be pneumonia. The sick hogs were separated from the rest of the herd and given special care.

North Platte (continued).

Arrangements have been made with the State Serum Plant at Lincoln to allow a small amount of serum to be stored at the experiment farm so that no time will be lost in vaccinating when symptoms of cholera are found. A shipment of 4000 c.c. was received this week.

One day of the week was spent attending the annual meeting of the Nebraska State Irrigation Association at Bridgeport. The congress lasted 3 days and there was an attendance of more than 200.

D. H. Propps.

Shoshone.

Though no cattle were shipped during the week ending December 9, about a carload were sold to local butchers and on this account many requests for market information were received. One car of hogs were sold to Mr. Pierce and shipped by him to Billings. Most of these animals were feeders and will be fed at Billings. Six and one-half cents per pound was the price paid for nearly all, though a few brought 7 cents.

Exceedingly cold weather prevailed throughout the week and raised many questions among poultry keepers about the ventilation of houses. Several farm visits were made to inspect and advise poultrymen. Turkey sales are likely to reach 7000 for the season. The price now is 23 cents alive and 28 cents dressed for No. 1 birds. Practically all produced on the project are being sold to a local buyer. Too many do not grade No. 1, due to the weather and not feeding enough grain.

Twenty samples of milk were tested for two farmers and work was done on a summary of the year's records. A talk on the "Importance of Dairying" was given at the regular meeting of the Powell Commercial Club held weekly, and two conferences were held with the agricultural committee of that organization pertaining to livestock matters. The price of butterfat is 43 cents per pound.

G. A. Wright.

Uncomahere.

Business connected with the poultry show held last week was cleaned up the first of the week ending December 9. A trip was made to Grand Junction to select a Jersey bull and two boars for project farmers. The bull, one subscribed for by the Jersey Club circuit, was found, but no boars were available.

Two flocks of hens were culled for farmers, who had to reduce the size of their flocks. Sixty-eight birds were culled from 150 and some questionable ones were left because of the difficulty of picking closely at this season of the year. Two calls were made to select breeding stock for turkey raisers.

Work was begun on the annual report the latter part of the week, and some work was done on a proposed cooperative shipment of livestock.

H. A. Ireland.

IRRIGATION AND UNDERGROUND WATERS ON THE MILK RIVER PROJECT, MONTANA.

The Milk River was sampled during 1905 and 1906 at a point near Havre, Montana. Of these samples, six composites were analyzed and the results reported by Stabler in Water Supply Paper No. 274.

The mean of these six analyses showed a total salt content of 604 parts per million of which 12.6 per cent was calcium and magnesium, the bicarbonates computed as normal carbonates constituted 30 per cent, the chlorine 3.3 per cent and the sulphate 30 per cent.

Since this earlier examination of the Milk River was made construction of the project has gone forward and a portion of the water of the St. Marys River has been diverted into the Milk River.

The St. Marys River above the point of diversion into the Milk River drains a region of high mountains in Glacier National Park. As a result, the contribution of the St. Marys water tends to improve the quality of the supply diverted from the Milk River for irrigation purposes.

The quality of the irrigation supply for the Milk River Project at the present time is indicated in Table I which includes 10 samples taken in August, 1922, at different points on the distribution system.

There are a number of creeks tributary to the Milk River that enter it within the Project. Of these Beaver Creek, from the south, and Frenchman and Rock Creeks, from the north, are probably the most important. All these enter the Milk River above Vandalia Dam. During the flood period a part of the discharge of Beaver Creek spills into Bowdoin Lake. The water of these creeks at the time of sampling, August, 1922, carried much more salt than the Milk River. It is possible that the higher salt content shown by the samples from Vandalia pool and the Vandalia Canal may have been due to contributions from these creeks.

The underground water conditions on the Project are indicated somewhat sketchily by samples 14 to 17. Nelson drain collects seepage from the Nelson Reservoir and the other samples are from farm wells on the Project. There is no evidence of the existence of a sheet of underground water on the Project. On the contrary, the subsurface water is found only in streaks of gravel of glacial deposition which occur irregularly in the moraines that border the valley or intrude into it. These moraines include also veins or deposits of shale which are often impregnated with salts, largely sulphate of calcium and sodium. Where the water bearing gravels come in contact with the salt bearing shale, leaching or diffusion takes place and the quality of the underground water is modified locally.

Bowdoin Lake is merely an evaporation basin, supplied chiefly by flood waters from Beaver Creek but receiving also some waste water from surrounding irrigated lands. Its water is the only sample from the Project showing a reaction for normal carbonates, and the percentage of calcium and magnesium is accordingly low.

This preliminary survey of the ground waters of the Milk River Project serve to show the need of tracing out the areas of subsurface gravels which may serve as conduits or reservoirs for water for domestic use as the project lands are developed. In so far as these lands are to be used for livestock farming it is important that adequate supplies of domestic and stock

THE HISTORY OF THE UNITED STATES

The history of the United States is a story of growth and development. It begins with the first settlers who came to the continent in search of a better life. These settlers found a land of vast resources and a people who were eager to learn from them. The United States has since become a nation of great power and influence, and its history is a testament to the strength of its people and the values they hold dear.

The United States has a rich and diverse history, with many different cultures and traditions. It is a nation that has always been a melting pot of different peoples, and this has made it a land of great strength and resilience. The United States has a long and proud history of freedom and democracy, and it is a nation that has always stood for the rights of all its people.

The United States has a long and proud history of innovation and progress. It is a nation that has always been at the forefront of scientific and technological advancement, and it is a nation that has always been a leader in the world. The United States has a long and proud history of leadership and vision, and it is a nation that has always been a source of inspiration and hope for the world.

The United States has a long and proud history of service and sacrifice. It is a nation that has always been a source of strength and support for its people, and it is a nation that has always been a source of pride and honor for the world. The United States has a long and proud history of leadership and vision, and it is a nation that has always been a source of inspiration and hope for the world.

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Irrigation and Underground Waters on the Milk River Project, Montana (continued)

water be available. The winter climate is so severe and the evaporation is so high that if possible underground water should be used. Large quantities of water could be stored in such of the gravel beds of the project as are not subject to salt contamination from deposits of salt bearing shale.

Table I.- Quality of Irrigation Water on the Milk River Project,
Montana. Samples collected by Stratton, August, 1922.
Analyzed by Breazeale.

Location.	Parts per million					Percentage composition			
	Total salts	Ca & Mg	HCO ₃ 2	Cl	SO ₄	Ca & Mg	HCO ₃ 2	Cl	SO ₄
1. Pool at Dodson Dam ..	368	57	216	..	115	15	29	..	31
2. Dodson North M 13....	376	69	216	..	115	18	29	..	31
3. Dodson South M. 20...	378	66	216	..	130	17	29	..	34
4. Waste Ditch 10 Malta	420	66	216	..	142	16	26	..	34
5. Waste Ditch 11 Malta	474	99	264	..	156	21	28	..	33
6. Dodson South M. 35 ..	366	81	216	..	156	22	29	..	43
7. Nelson Reservoir	368	66	216	..	136	18	29	..	36
8. Nelson Canal M. 4....	672	135	216	..	341	20	16	..	51
9. Vandalia Pool	708	132	216	..	380	18	15	..	53
10. Vandalia Canal M.30..	1003	180	168	..	544	18	8	..	54

Table II.- Quality of Local and Underground Water on the Milk River
Project, Montana. Samples collected by Stratton, August,
1922. Analyzed by Breazeale.

Location.	Parts per million					Percentage composition			
	Total salts	Ca & Mg	HCO ₃ 2	Cl	SO ₄	Ca & Mg	HCO ₃ 2	Cl	SO ₄
11. Beaver Creek Mouth...	936	150	168	..	469	16	9	..	50
12. Frenchman Creek	1560	246	312	..	879	16	10	..	56
13. Rock Creek	1520	180	384	28	807	12	13	1.8	53
14. Nelson Drain	2410	495	312	42	1351	20	6	1.7	56
15. Erickson Well	2696	600	288	..	1522	22	5	..	56
16. Blues Well	3764	417	600	168	1899	11	8	4.5	55
17. Hall's Well	844	138	384	Tr	374	16	23	Tr.	44
18. Bowdoin Lake	2410	180	1/564	84	1230	7	12	35	51

1/ Includes normal carbonates.

C. S. S.

W E E K L Y B U L L E T I N

Of the Offices of

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Western Irrigation Agriculture

Newlands

Effect of Dilution upon Release of Absorbed Salts.

Problem.-- It has been repeatedly shown that in many soils the amount of total salts that will go into solution into a water extract varies with the dilution, i.e., it is frequently found that a greater quantity of salts will be removed from a soil when the ratio is one part of soil to fifty parts of water than when the usual ratio of one to five is used. The question is:- Is this additional salt released to the solution from a state of absorption by the soil or does it come from the solution of relatively insoluble precipitates not a part of the soil?

Assumptions.-- If the salts have been released into the solution from a state of absorption by the soil, concentrating the filtered extract should not result in any loss of the salts from solution, while, on the other hand, if the additional salts dissolved by increasing the dilution came from some relatively insoluble precipitate, there would be an equal amount precipitated when the filtered 1:50 extract is evaporated to one-tenth its bulk, i.e., to the volume of the 1:5 extract.

Method.-- Water extracts were obtained from three different soils, Y 11, Y 2, and one from Salt Lake. Extractions were made from each at the ratios of 1:5 and 1:50. Bridge readings were made of the filtered extracts and measured portions of each of the 1:50 extracts were evaporated to one-tenth their original bulk. The concentrated solutions were then filtered and bridged.

Results.-- The total salts in the soil as determined by bridge readings of the extracts were as follows:-

Series	Soil - Water Ratio	Y 11	Y 2	Salt Lake
1	1 : 5	1980	2035	1560
2	1 : 50	7650	5400	4350
3	1 $\frac{1}{50}$ 1/	3165	4690	4160
	1/ concentrated			

A slight precipitate was noted in the beaker Y 11 but the other solutions remained clear.

Conclusions:-- If the difference in salt content resulting from the two dilutions were entirely explainable by absorption, the concentration of series 3 would remain identical with series 2 for each soil. But if the salts had not been in an absorbed state in the soil, series 3 would have the same concentration as series 1 for each soil.

The increased amount of salts actually found by dilution must therefore have resulted very largely from a release of the salts from a state of absorption. A small amount seemed to be precipitated out when the 1:50 extract was concentrated.

F. B. Headley
December 15, 1922.

Scottsbluff.

The average maximum temperature for the week ending December 16 was 26 with a maximum of 41 on the 10th; the average minimum was 4 with a minimum of 9 below zero on the 14th. This is the first zero weather recorded this winter--the thermometer registering 4 below on the night of the 10th and 9 below on the 14th.

A trip to Denver was made the first of the week and a car of lambs purchased. They have been received and will go on test feeding the first of next week. There will be thirteen lots of 30 lambs each.

A car of dried beet pulp was received and unloaded. This will be used in experimental lamb feeding and to the dairy cattle.

J. A. Holden.

Demonstrations on Reclamation Projects.

Minidoka.

Most of the time during the week ending December 9 was spent on poultry matters. A great deal of interest is manifested by farmers throughout the project in the poultry of the farm. The laying flocks are demonstrating very forcibly to the farmers the value of poultry as a side line and they are waking up to this fact as never before.

The most important event of the week ending December 16 in agricultural circles on the project was the visit of Mr. Laabs, who came at the suggestion of J. L. Kraft of the J. L. Kraft and Brothers Company, looking toward the opening of two cheese factories which have been standing idle for a year or two on the project. The prospects for opening these factories are very bright.

Mr. Kraft has stated in letters, and personally on the project in meetings, that he can pay Wisconsin prices for cheese in car lots, f.o.b. care on the project. Wisconsin prices for milk for cheese making are now sixty-two cents at Curtis, Wisconsin. Our price here is forty-six cents. If the price could be increased to sixty cents here, it would stimulate the dairy business very materially.

Saturday a poultry association was organized at Burley, with the object of getting the poultrymen acquainted with each other, and discussing poultry problems so that the best practices may be adopted; and so that they may work in harmony, looking toward the time when they can market a standardized egg.

J. T. Montgomery.

The first of the year was a very successful one for the
company. The sales were up to the mark and the
profits were also good. The management was very
satisfied with the results and the staff was
well rewarded for their efforts.

The second half of the year was also a very
successful one. The sales continued to rise and
the profits were also good. The management was
very satisfied with the results and the staff was
well rewarded for their efforts.

The third half of the year was also a very
successful one. The sales continued to rise and
the profits were also good. The management was
very satisfied with the results and the staff was
well rewarded for their efforts.

The fourth half of the year was also a very
successful one. The sales continued to rise and
the profits were also good. The management was
very satisfied with the results and the staff was
well rewarded for their efforts.

Nevlands.

During the week ending December 16 forty-three calls for assistance were received and visits were made to three farms.

Cooperative marketing commanded considerable time and attention during the past weeks. A cooperative shipment of one car load of veal calves was made to the Nevada Packing Company, at Reno, on Saturday. In this shipment six farmers shipped fifty calves. These calves were sold for $7\frac{1}{2}$ cents per pound weighed at Fallon. A second cooperative shipment of veal has been arranged for and will be made about January 15. It is expected that ten farmers will participate in this shipment. Special instructions have been given for feeding the calves for this shipment. A grain supplement consisting of corn meal two parts, bran and shorts mixed two parts, and linseed oil meal two parts, has been recommended. This mixture is to be fed at the rate of one-half pound per day for four-weeks-old calves up to 2 or $2\frac{1}{2}$ pounds a day for two-months-old calves. The feeding of the grain mixture dry immediately after the milk ration is recommended.

For the most part veal calves in this locality are not of extra quality because they are fed largely on skim milk and alfalfa hay. A definite effort will be made to stimulate more interest in producing good veal and making some dependable arrangements for marketing the calves when they are ready. The inability of our local market to take all calves produced here, has acted as a discouraging factor in producing good veal. A cooperative shipment once a month will be made as long as the local supply warrants it.

Two farmers' meetings were attended during the week and two addresses made. At one meeting the subject of dairy cattle selection was discussed. Lantern slides illustrating the subject were used. The second conference was the Annual County Farm Bureau Meeting. At this gathering a brief outline of the proposed work of this office for the new year was given.

During the past week three separate articles were prepared for the local papers on the subjects of cooperative marketing and herd testing work.

L. E. Cline.

North Platte.

The lambs for the feeding test were shipped to the experiment farm during the week ending December 16. They are a uniform lot of light-faced lambs averaging 53 pounds at loading point. They will be fed about 100 days.

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North Platte (continued).

There are thirteen lots of 30 lambs each which will be fed the following rations:

- | | | |
|-----|----|-----------------------------------|
| Lot | 1 | Hay, corn |
| | 2 | Hay, barley |
| | 3 | Hay, dry pulp |
| | 4 | Hay, corn, cottonseed cake |
| | 5 | Hay, barley, cottonseed cake |
| | 6 | Hay, dry pulp, cottonseed cake |
| | 7 | Hay, corn, oil cake |
| | 8 | Hay, barley, oil cake |
| | 9 | Hay, dry pulp, oil cake |
| | 10 | Hay, corn silage, cottonseed cake |
| | 11 | Hay, top silage, cottonseed cake |
| | 12 | Hay, tops, cottonseed cake |
| | 13 | Hay, potatoes, cottonseed cake |

The hogs were weighed in from the "hogged down" corn plat and the results tabulated. This method of feeding shoats is to be recommended only when alfalfa or other protein feed is fed along with the corn.

D. H. Propps.

Shoshone.

During the week ending December 16 fifteen farm visits were made and 35 requests for assistance were received.

Much time was given assisting several farmer cooperators in the year's projects bring records up to date by furnishing advice and information of various kinds. Ten milk samples were tested and 3 individual cow records were completed. Two articles for publication were partly completed. Assistance was also given to the committee of farmers who are in charge of arrangements for the annual County Farm Bureau meeting, December 23 in the way of advertising and program preparation.

Conferences with the agricultural committee of the Powell Commercial Club continued. The object of these conferences is to work out an agricultural policy which may be persistently followed by the club, which will promote the type of farming adapted to conditions, and which, if the assent of the better farmers can be obtained, may enlist the cooperation of all agencies having influence in the community. In short, the object is the coordination and intensification of all efforts to promote agricultural development and prosperity.

G. A. Wright.

Uncompahgre.

Parts of several days of the week ending December 16 were given to the preparation of the annual report.

Milk tests were run for seven men. One herd of eight cows is returning \$4.24 per day in butterfat at a cost for feed of \$1.54. Charged market price for grain, they are paying \$40.00 a ton for hay which is worth only \$10.00 on the market.

An effort was made to get off a cooperative shipment of cattle this week but cars could not be secured. Enough stock for two cars is listed. Cars have been ordered again for the middle of Christmas week as shippers want to avoid the holiday market. Stock to be shipped consists of some steers and a number of cull cows.

H. A. Ireland.

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WEEKLY BULLETIN
Of the Offices of
WESTERN IRRIGATION AGRICULTURE
And
DEMONSTRATIONS ON RECLAMATION PROJECTS

Vol. XXI.

December 30, 1922.

No. 27

Western Irrigation Agriculture

San Antonio

The first killing frost of the season occurred during the four week period ending December 30 when the temperature dropped to 28 degrees F. the night of December 18. The last killing frost in the spring occurred the night of March 3; giving a frost free period for 1922 of 290 days -- four days longer than ever before recorded at this station. The average frost free period as recorded at the farm for the sixteen years; 1907 to 1922, inclusive; is 259 days. A summary of the meteorological data for the four weeks follows:- Maximum temperature 83 on December 4; minimum temperature 28 on December 18, 19 and 21, respectively; greatest daily range 40; precipitation .09 inch (December 12 and 13); clear days, 15; partly cloudy days, 7; and cloudy days, 6.

There has been no rainfall of consequence in this region since November 16 and most small grain plantings are at a standstill for lack of moisture. Oats seeded in the rotation and tillage experiment plats November 28 were up to an excellent stand December 4 and were making very satisfactory growth. On December 6 and 7 large flocks of rice birds and meadow larks swooped down on the fields and annihilated all plantings. On December 8 all plantings were reseeded. A boy with a shotgun was kept moving through the fields until December 23, at which time the second planting had become well established and the birds had been quite thoroughly frightened from the vicinity. The moisture condition of the seed bed was much less satisfactory at the time of this second planting than at the time of the original planting and the stand obtained is appreciably thinner.

Work on the station during the period has included the following:- plowing, subsoiling and manuring rotation plats; plowing fields C3, C5, and Herbst's; disking weedy rotation plats and fields C3, C4, C6; D3, and F3; cultivation of all orchards; completion of the Mangum terrace on fields B4, C4, D4; harvesting Rhodes grass from field B4; reseeding all rotation oat plats; and general upkeep work about the farm grounds and buildings. A considerable amount of time has been spent in repairing, cleaning, and painting farm machinery.

Dr. O. F. Cook and Mr. R. D. Martin of the Office of Crop Acclimatization and Adaptation Investigations were station visitors December 19.

Geo. T. Ratliffe.

Scottsbluff

The average maximum temperature for the week ending December 23 was 41, with a maximum of 50 on the 22nd, the average minimum was 13 with a minimum of 9 below on the 17th. There has been a warm wind practically all week and much of the drifted snow has melted and the roads are again in poor condition. A good deal of frost has also gone out of the ground.

Hay has been purchased to cover the feeding operations for the winter at a cost of \$10.50 and \$11.00 per ton. According to the latest estimates there has been an increase of about 20 per cent in lamb feeding in this section. The number on feed in this part of the Valley has been placed at 140,000. A much larger number of farmers are feeding this year than last as the Sugar Company is feeding only a small number this year, while last year they fed about 75,000.

The following table shows the yields of alfalfa from the irrigated rotations during the crop season of 1922:

Yields of Alfalfa in Irrigated Rotations-Field K.

Rotation:		Plat:		Tons per acre				Total
No.	Series	No.	1st	2nd	3rd	4th	Per acre	tons
65	I	6	1.50	0.70	1.40	0.50	4.10	
61	II	6	1.88	0.68	1.20	1.08	4.84	
61	II	7	2.06	1.22	1.26	0.34	4.88	
40	II	13	1.74	0.94	1.42	0.74	4.84	
60	III	6	1.64	1.02	1.41	0.52	4.59	
60	III	7	2.14	1.30	1.70	0.80	5.94	
42	III	13	1.28	0.68	1.16	0.58	3.70	
62	IV	6	1.54	1.04	1.36	0.63	4.57	
62	IV	7	2.22	1.30	1.26	0.56	5.34	
44	IV	13	1.46	0.80	1.00	0.34	3.60	
8	V	1	2.22	0.92	0.94	0.28	4.36	
64	V	6	2.36	1.48	1.52	1.21	6.57	
64	V	7	2.33	1.54	1.44	1.16	6.47	
64	V	11	0.80	0.46	0.48	0.50	2.24	
48	V	13	1.08	0.60	0.78	0.47	2.93	
Maximum.....			2.36	1.54	1.70	1.21	6.57	
Minimum.....			0.80	0.46	0.48	0.28	2.24	
Mean.....			1.75	0.98	1.22	0.65	4.60	

J. A. Holden.

Demonstrations on Reclamation Projects.Minidoka.

The principal part of the work during the week ending December 23 was devoted to poultry matters, particularly the encouragement of proper feeding and handling for egg production. Several farm poultrymen expect to employ expert assistance in mating up breeding pens for this year and this work is being encouraged. Considerable attention was given to the preparation of material for the annual report.

J. T. Montgomery.

Newlands

During the week ending December 23 some time was spent with a prospective settler, who came into the project with a view to leasing a ranch and bringing his herd of forty dairy cattle from near Modesto, California. Definite arrangements for a lease were not made but several places are under consideration. A number of the farmers who have been growing alfalfa hay for shipment are considering placing herds on their ranches the coming year in order to avoid the difficulty of marketing alfalfa hay next year should our valley be quarantined out of the California hay market on account of alfalfa weevil.

The cooperative marketing of veal and hogs has required considerable attention during the week, additional animals being listed for cooperative shipments. One article of 800 words contributed to the local papers on the subject of growing and marketing veal. The production of veal on the project is growing very rapidly and already greatly exceeds the local demand and the express shipments of dressed veal which go to the mining towns throughout the state. In order to properly market the veal from the project a more concerted effort will need to be made to properly finish the calves and to arrange for cooperative shipments in carlots. A shipment of veal at regular intervals of one or two months is planned for and especial effort will be made to have the calves properly fed, so that they can be marketed at a profit within the shortest possible time.

During the past week there were received 47 calls for assistance and visits were made to three farms.

L. E. Cline.

North Platte

Practically the entire week ending December 23 was spent in the field in the interest of dairy bulls and getting in touch with communities where pig clubs may be organized in the spring. In cooperation with the county agent, club work will be taken up during February and March. Considerable interest is being manifested, especially in pig clubs.

Farmers who are in need of dairy bulls and have not yet procured them were visited during the week. Information was given as to where suitable bulls may be found and assistance was offered in making selections.

ORIGINAL ARTICLES

THE EFFECT OF THE INFLUENZA VIRUS ON THE
RESISTANCE OF THE BODY TO INFECTION
BY DR. J. H. HAY, CHICAGO, ILL.

THE EFFECT OF THE INFLUENZA VIRUS ON THE
RESISTANCE OF THE BODY TO INFECTION

It is well known that the influenza virus has a
marked effect on the resistance of the body to
infection. This is shown by the fact that
the influenza virus is a powerful
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North Platte (continued)

A few farmers are now ready to breed their sows for spring litters and, as the local supply of boars is about exhausted, a number of inquiries have been made as to where boars may be obtained. Some assistance was given along that line this week.

The Scottsbluff Cow Testing Association was recently re-organized and a tester employed on a part time basis as not enough herds have been entered to occupy the tester's full time each day in the month. Unless other members are secured, arrangements may be made for the tester to do official testing in the Valley during part of his spare time, thus saving the breeders the expense of the transportation of a tester coming out from Lincoln.

D. H. Propps.

Shoshone

During the week ending December 23, thirty-seven requests for assistance were received and 15 farm visits were made.

The larger part of the week was spent assisting those who are beginning the keeping of poultry records and those who are completing records for 1922. Also, several farmers who are keeping records of sheep production, were rendered assistance. Some time was utilized in securing accurate information concerning the rotations and farm practices followed on a number of farms, the owners of which appear successful.

The Powell alfalfa mill began grinding again during the forepart of the week, the weather having moderated. Growers who had not contracted previously are receiving \$11 per ton for hay. Some contracted for early at \$7.00 is being ground together with \$11 hay.

On Saturday the annual meeting of the Park County Farm Bureau took place at Powell, the members on the project supplying dinner for all visitors. Mr. Hower, former state president was the chief speaker. The attendance was not as large as had been hoped for.

G. A. Wright.

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1704

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